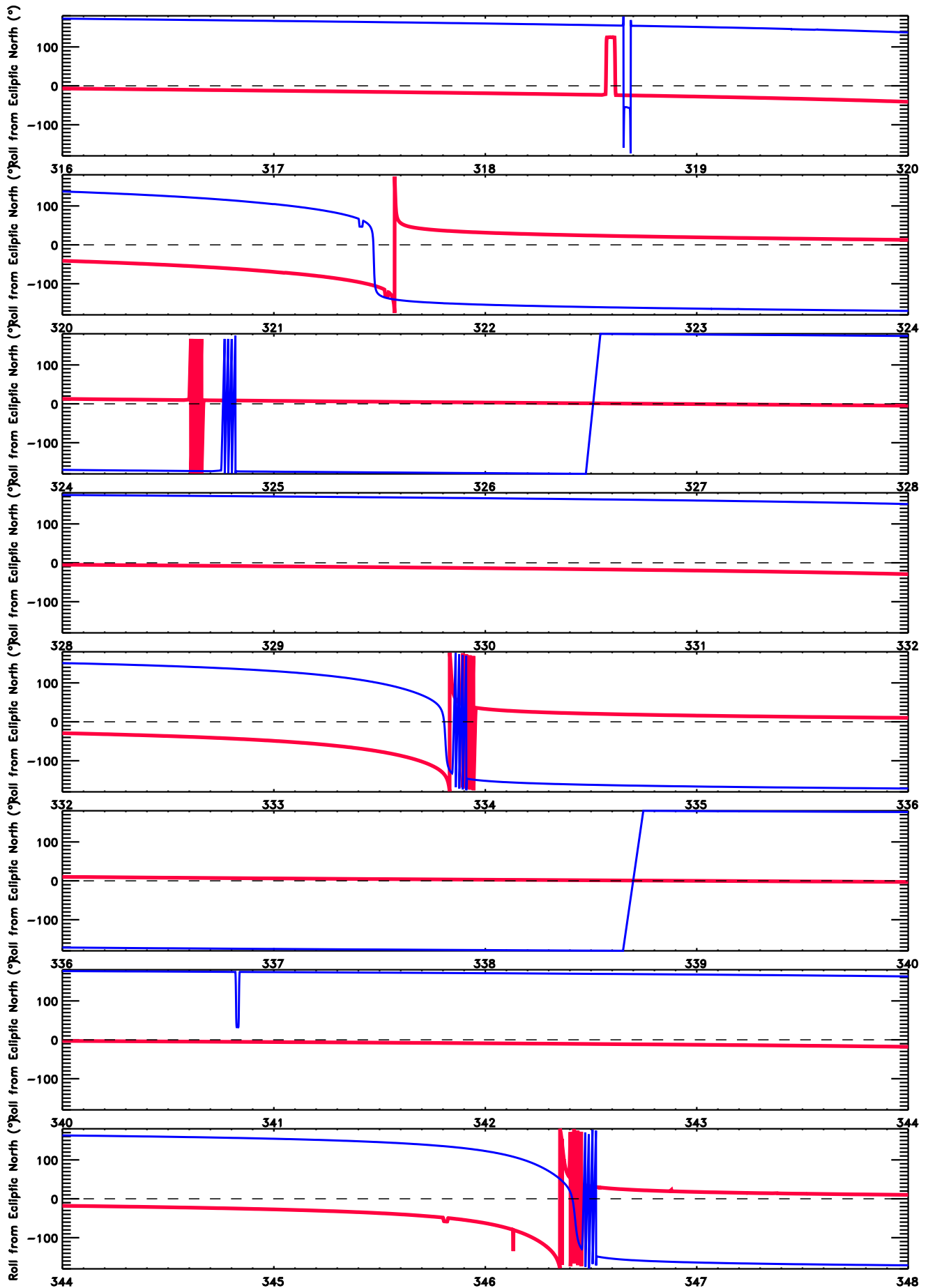


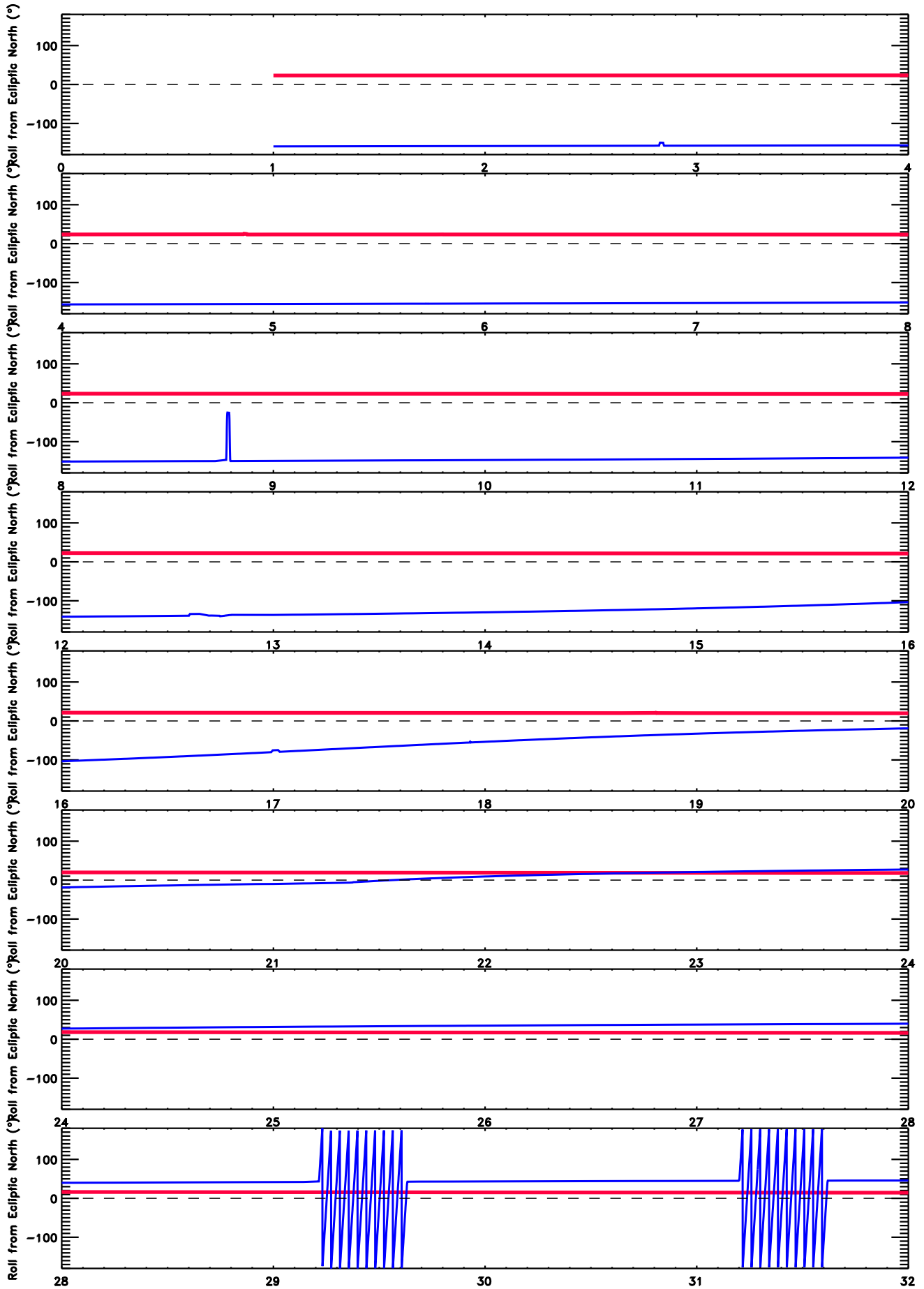
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2006  
Red = Ahead; Blue = Behind

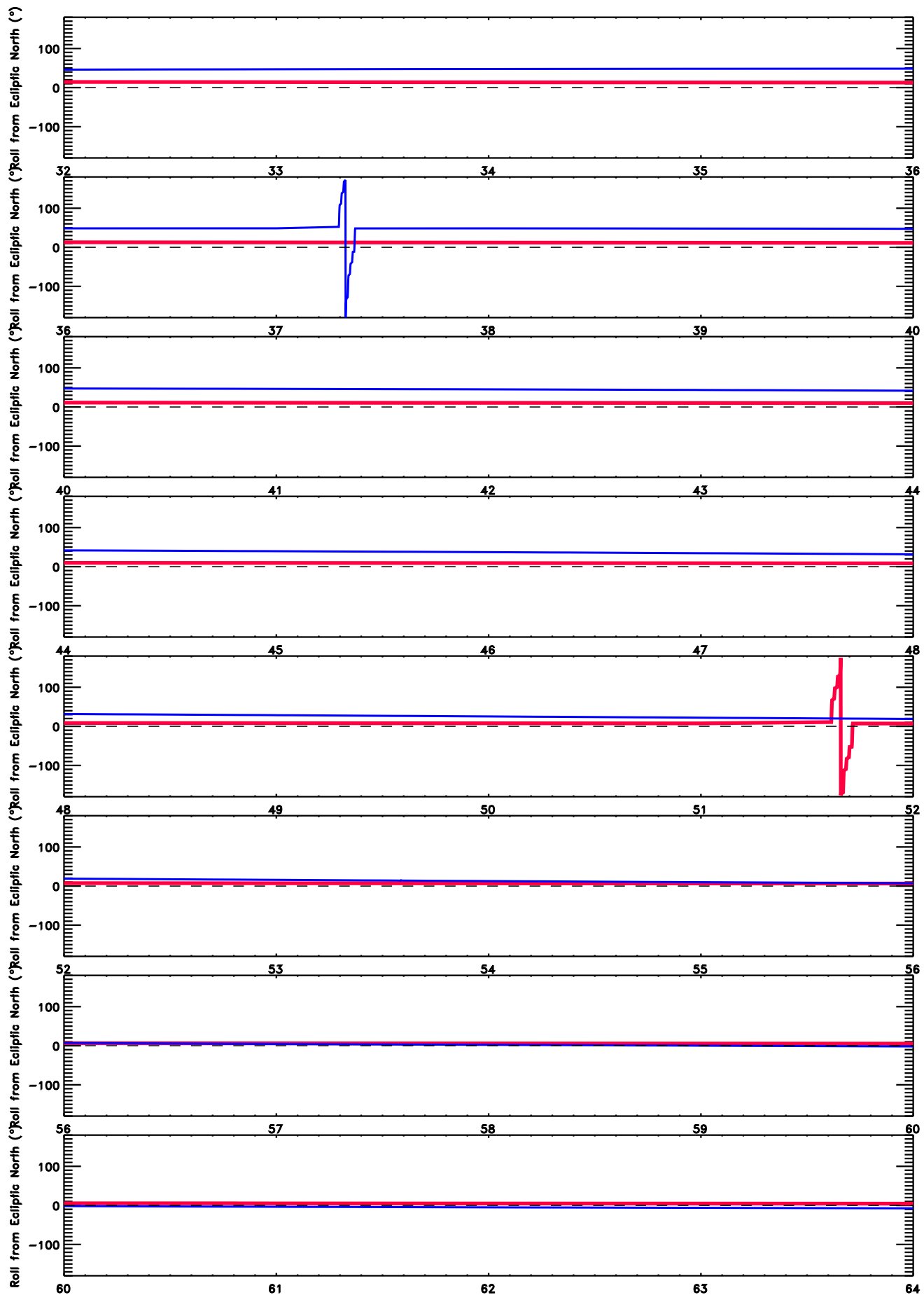


# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2007  
Red = Ahead; Blue = Behind

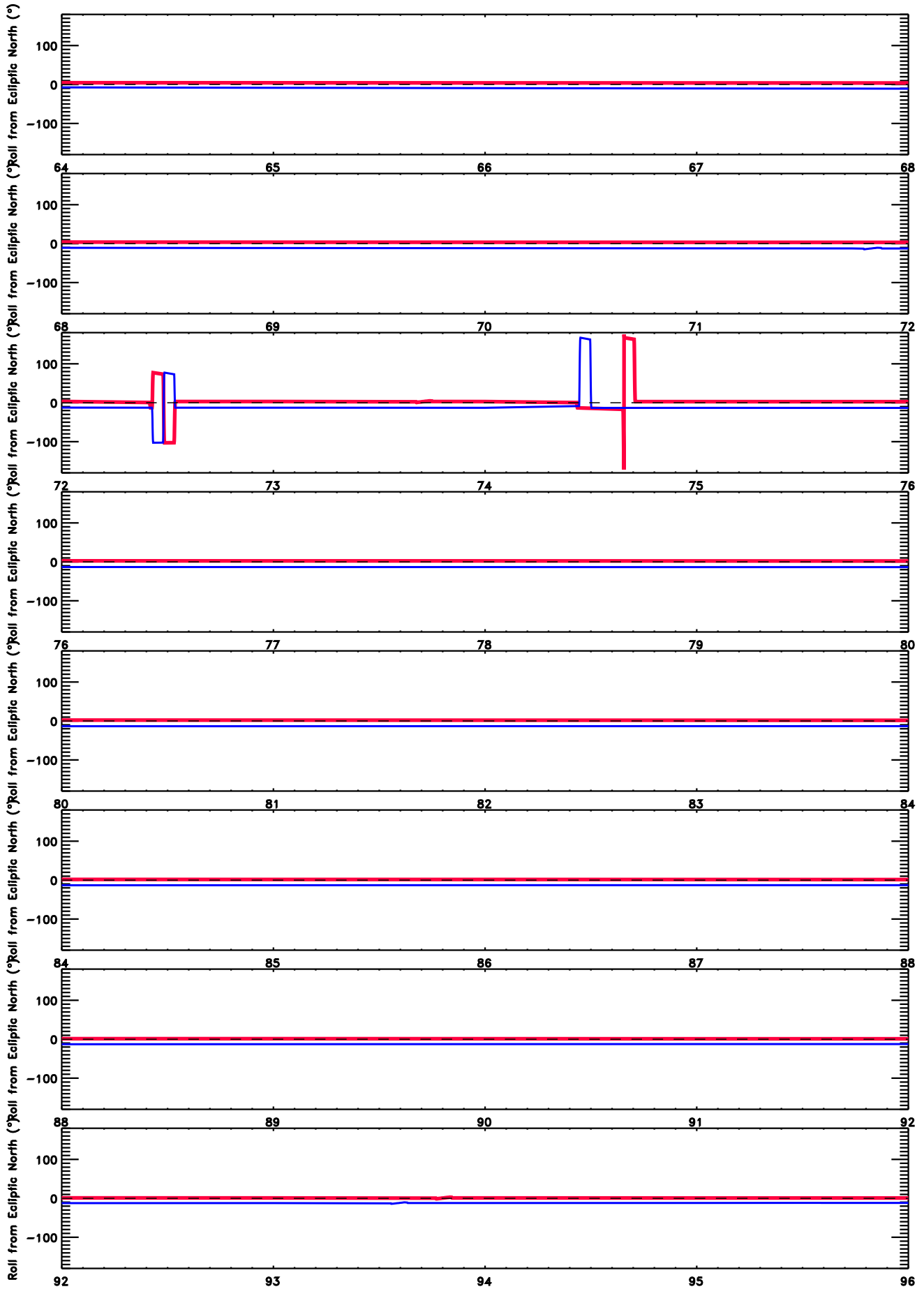
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2007  
Red = Ahead; Blue = Behind

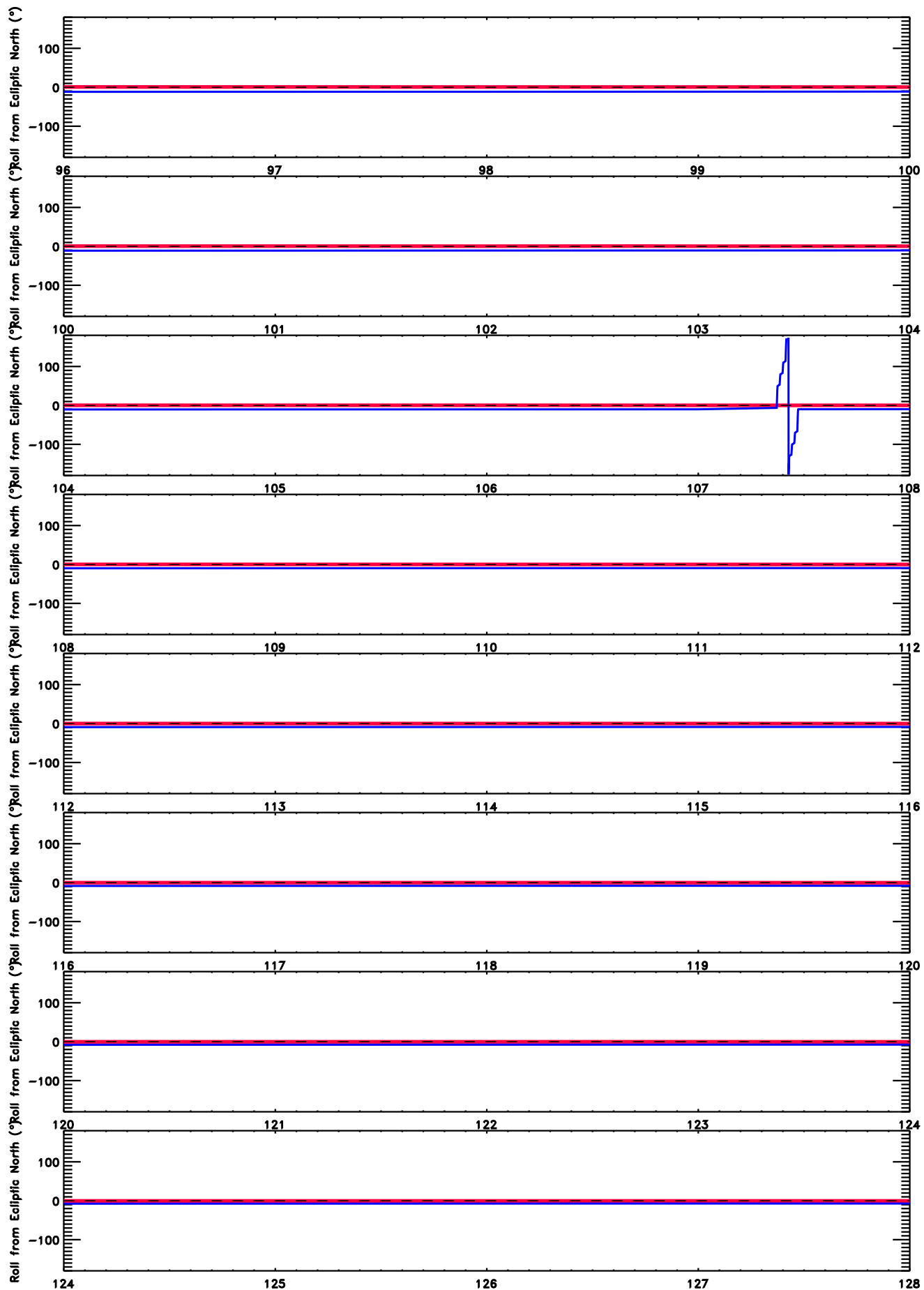


# Roll Angle from Ecliptic North ( $^{\circ}$ )



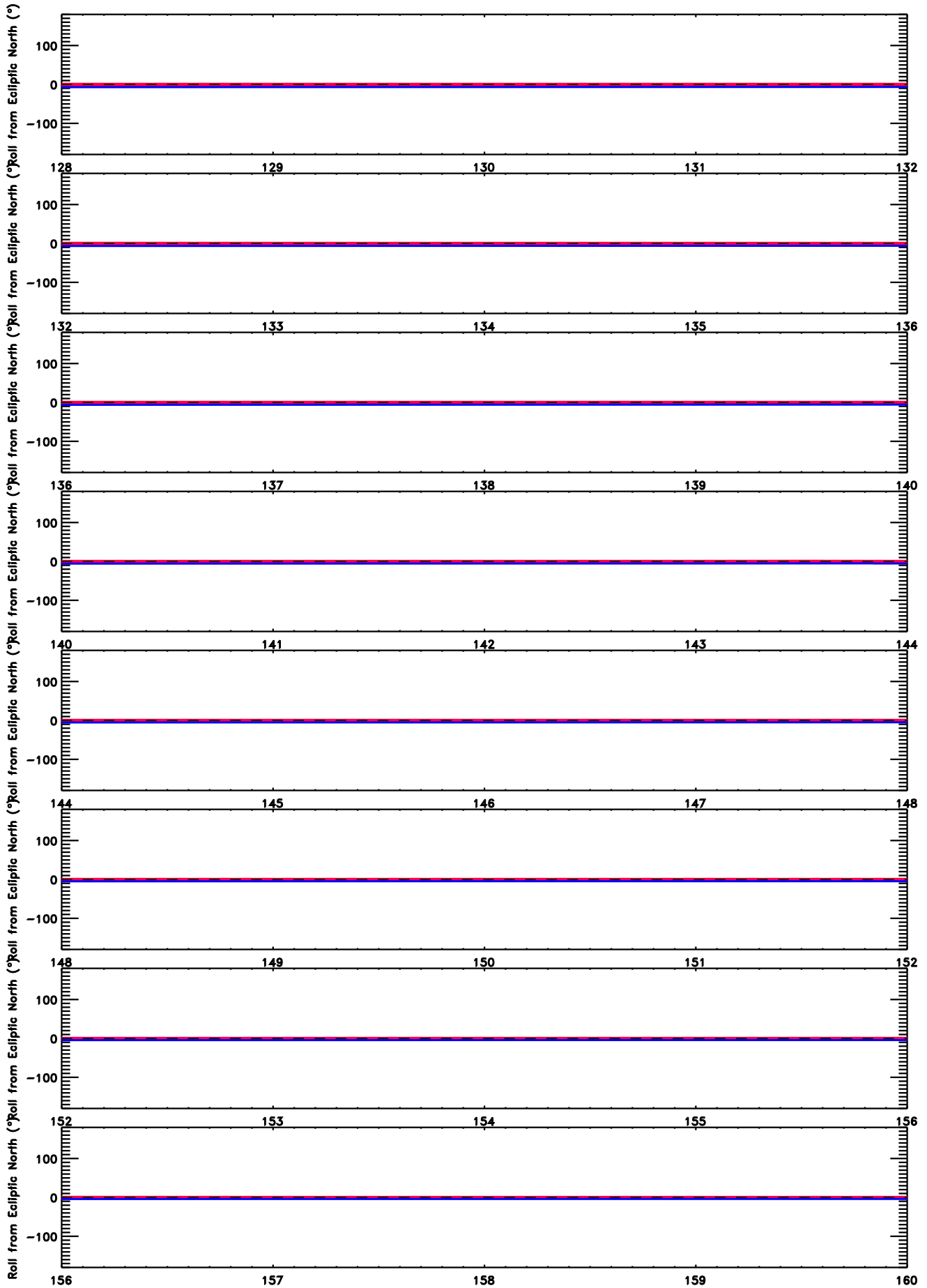
Day of 2007  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2007  
Red = Ahead; Blue = Behind

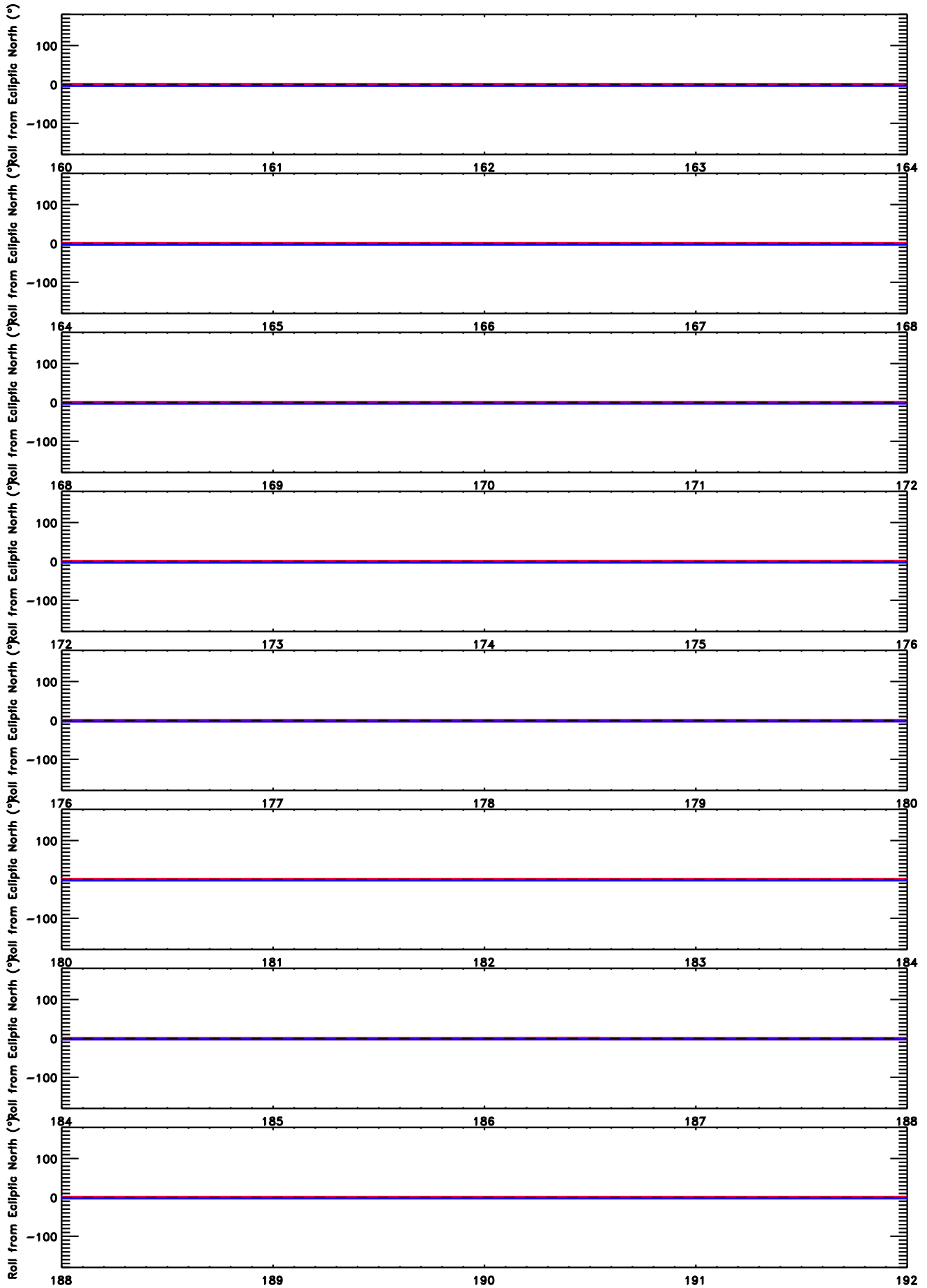
# Roll Angle from Ecliptic North ( $^{\circ}$ )



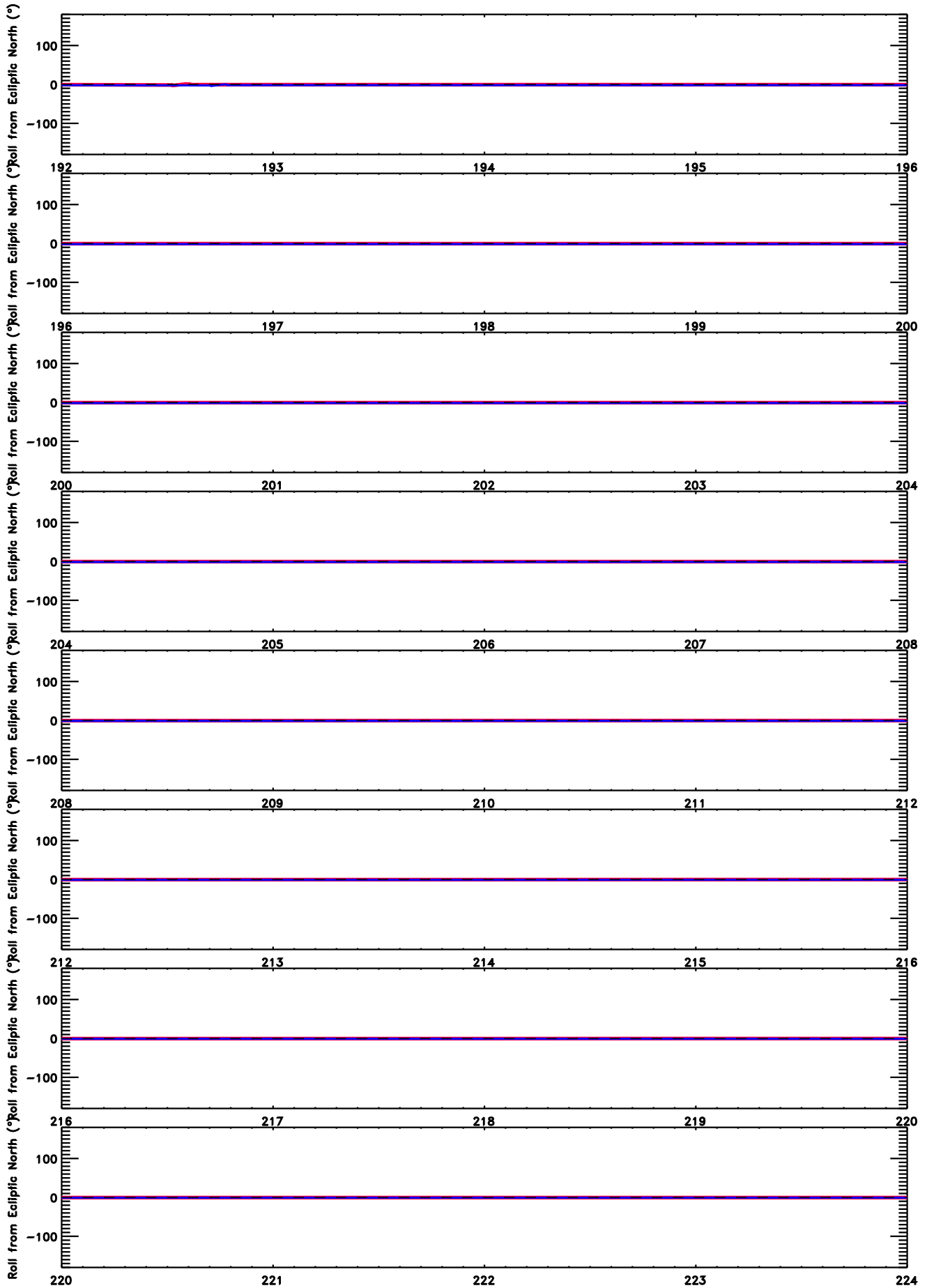
Day of 2007

Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )

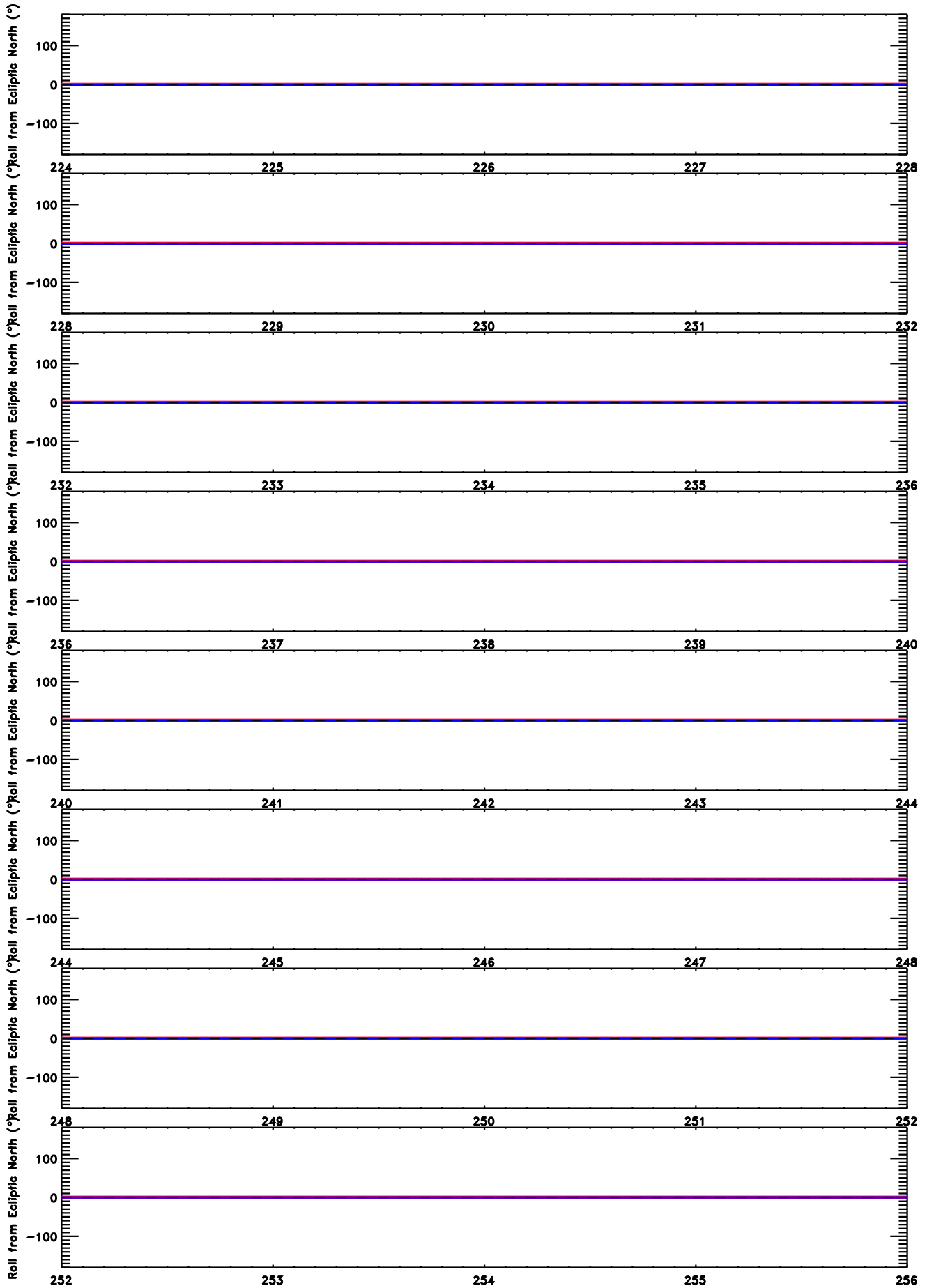


# Roll Angle from Ecliptic North ( $^{\circ}$ )



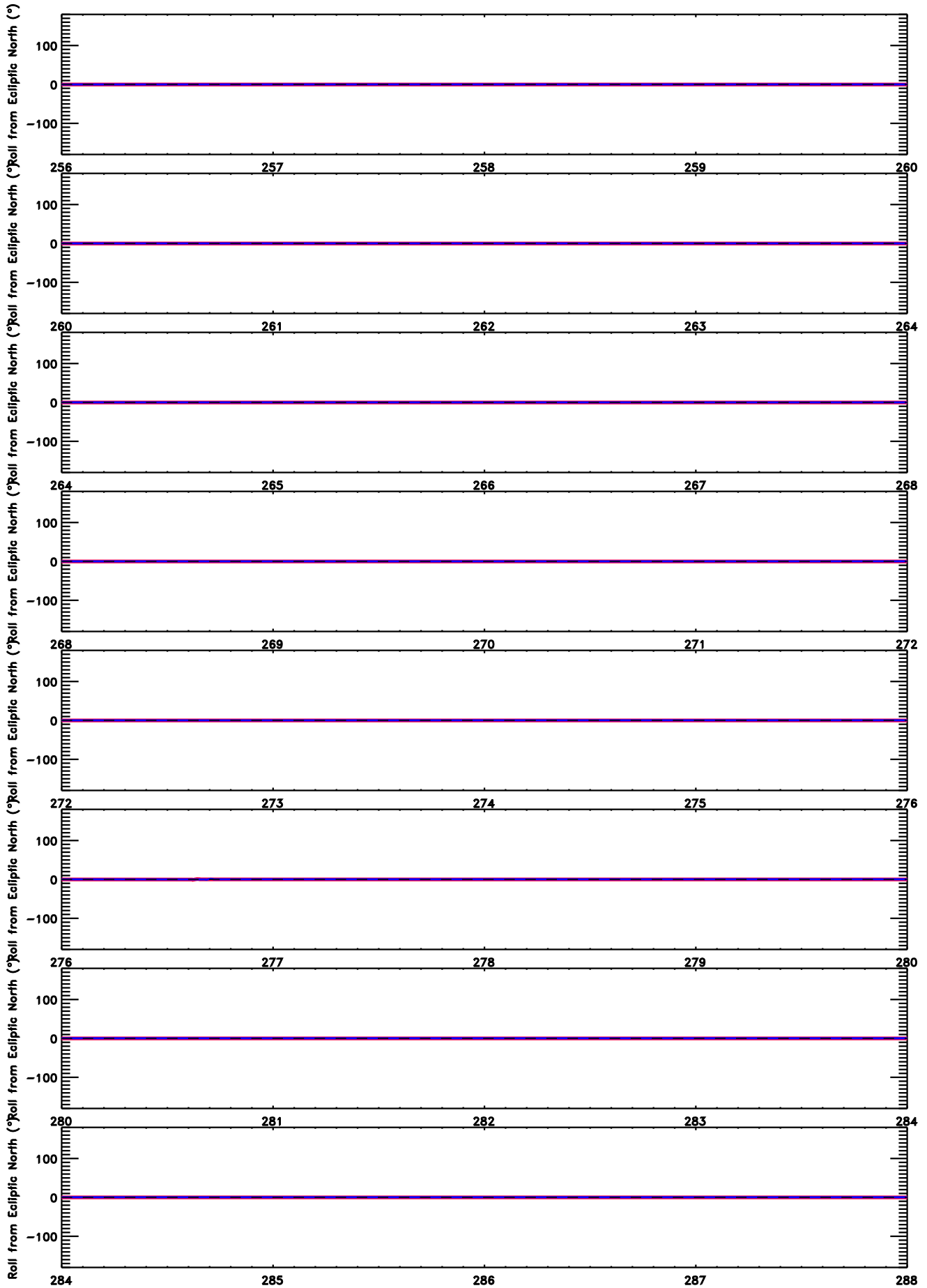
Day of 2007  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



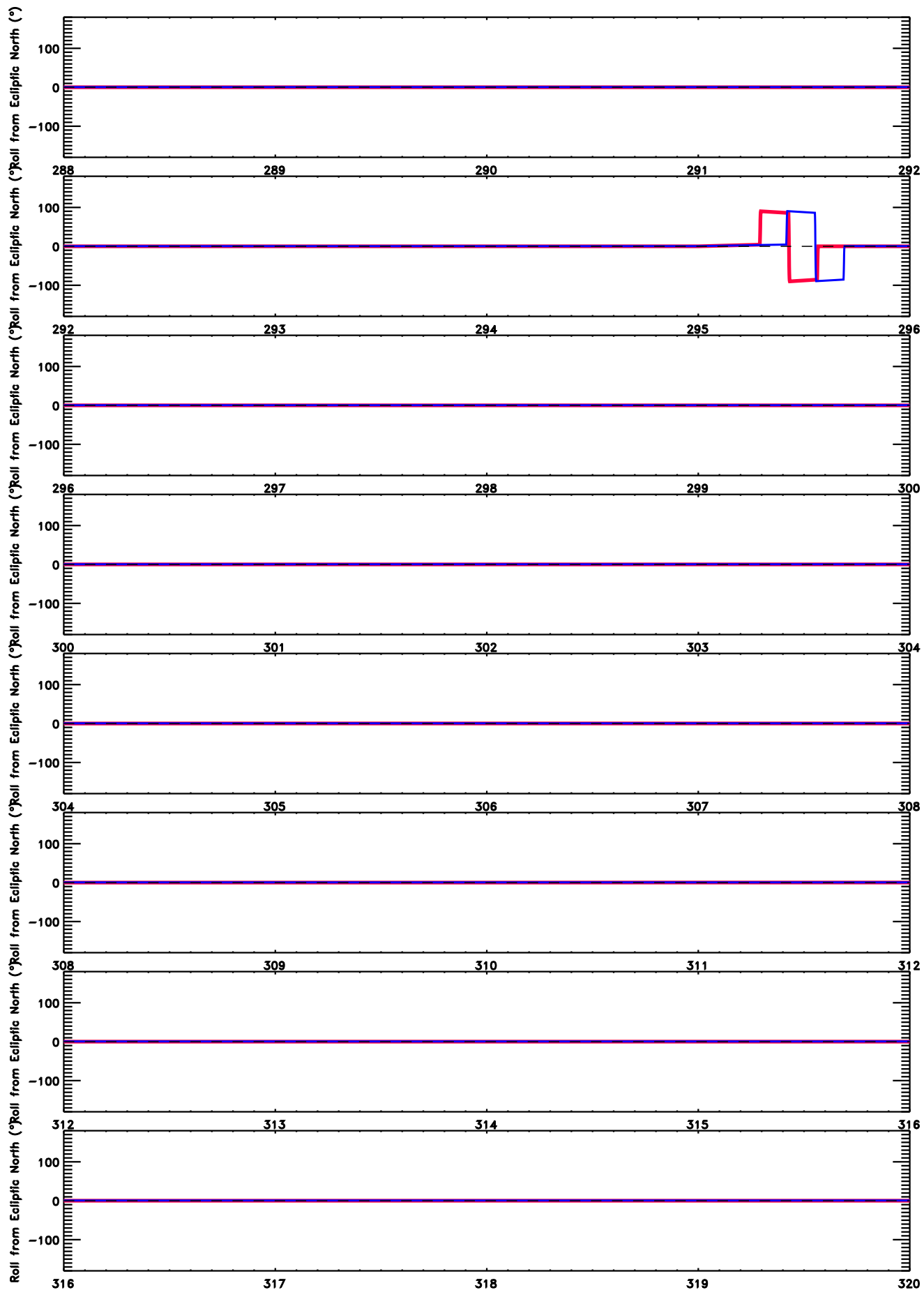
Day of 2007  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2007  
Red = Ahead; Blue = Behind

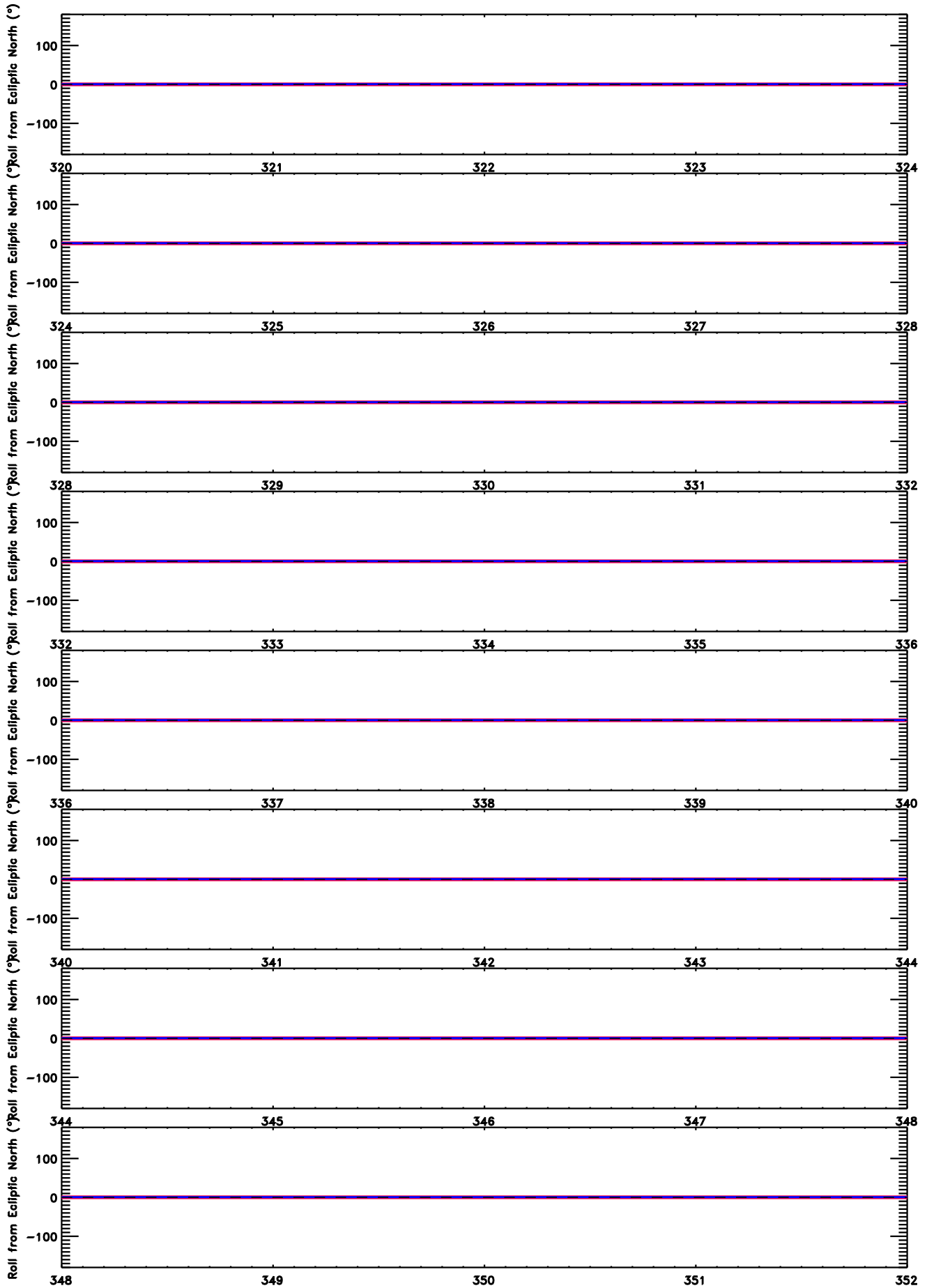
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2007  
Red = Ahead; Blue = Behind

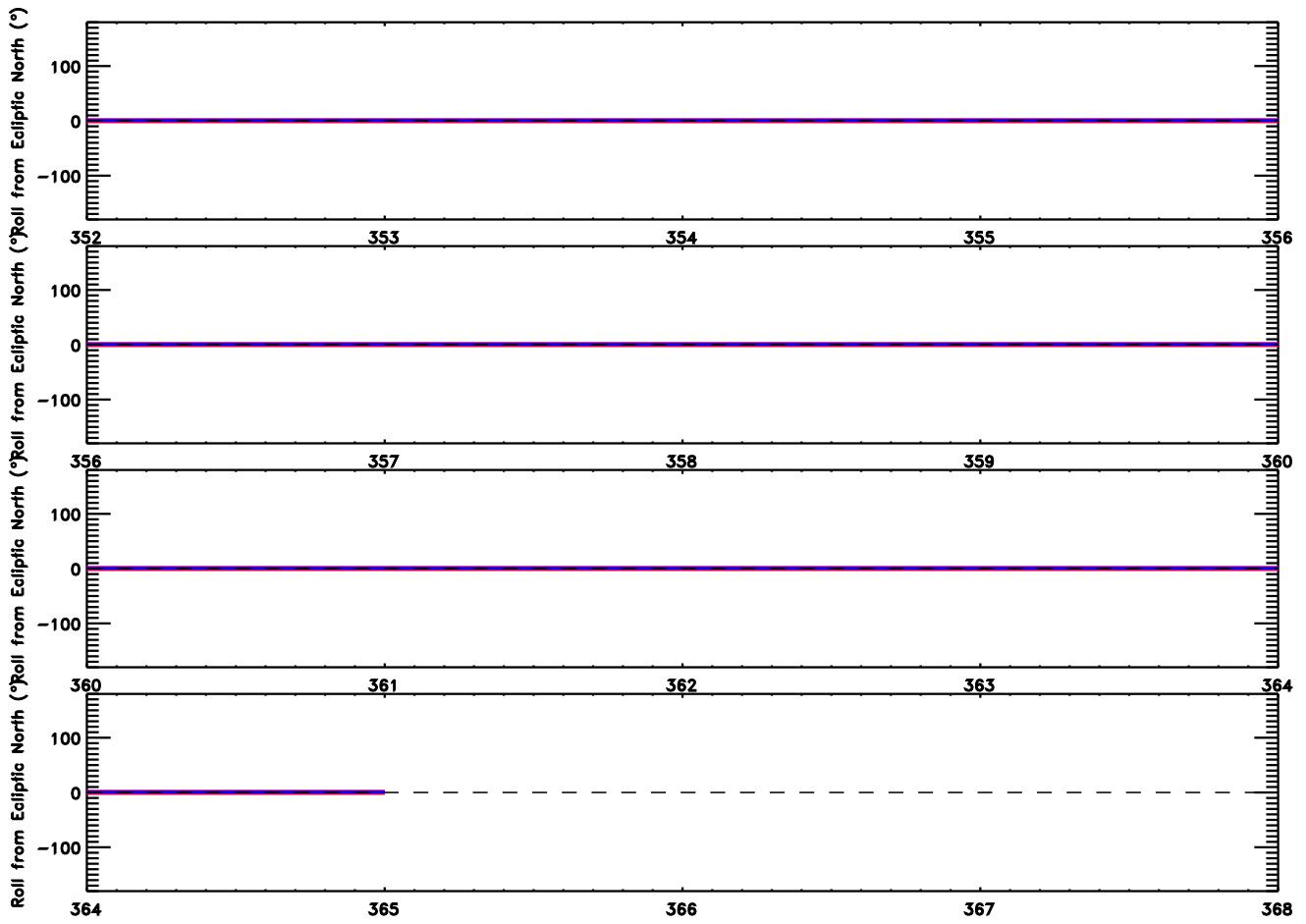


# Roll Angle from Ecliptic North ( $^{\circ}$ )



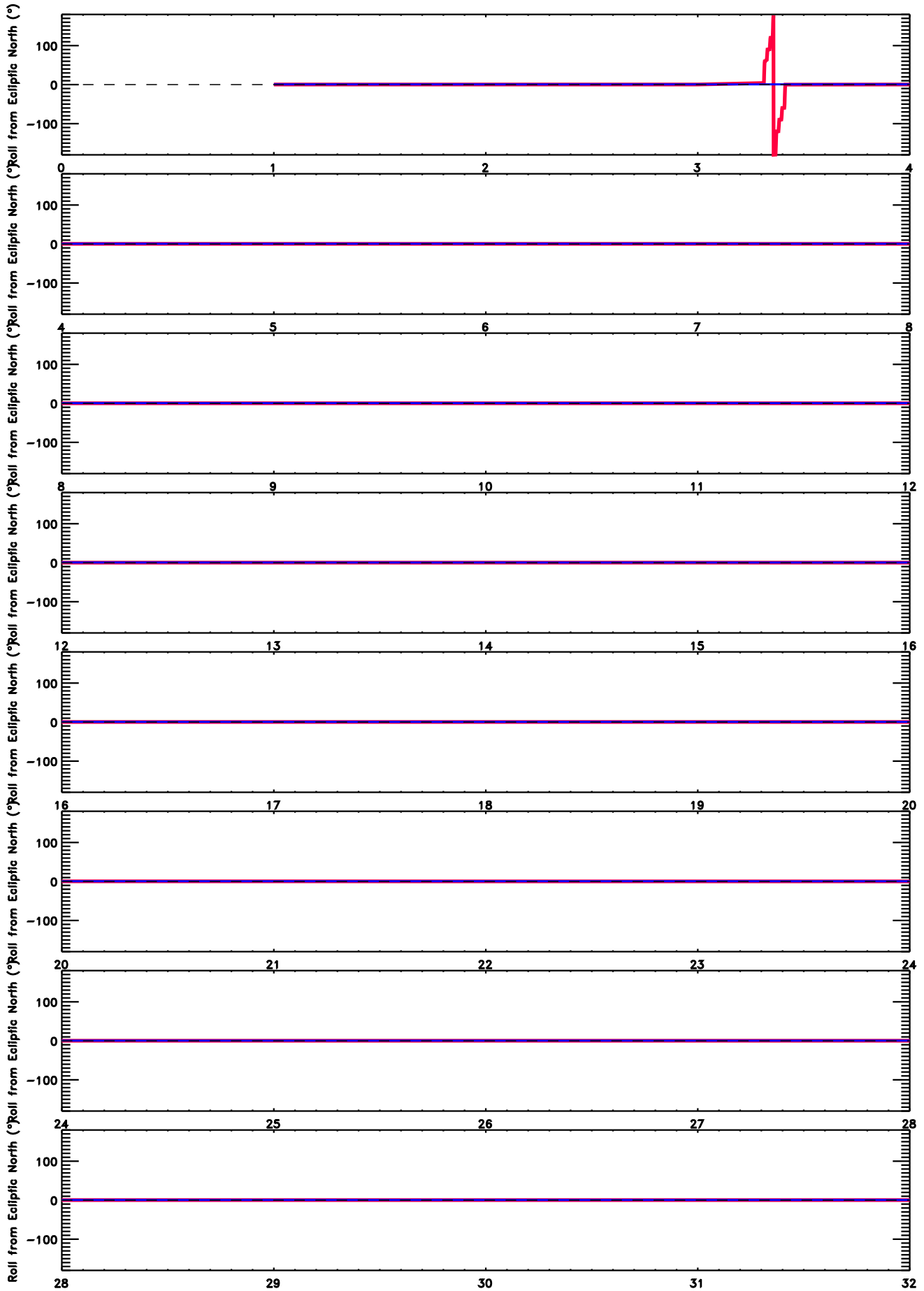
Day of 2007  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



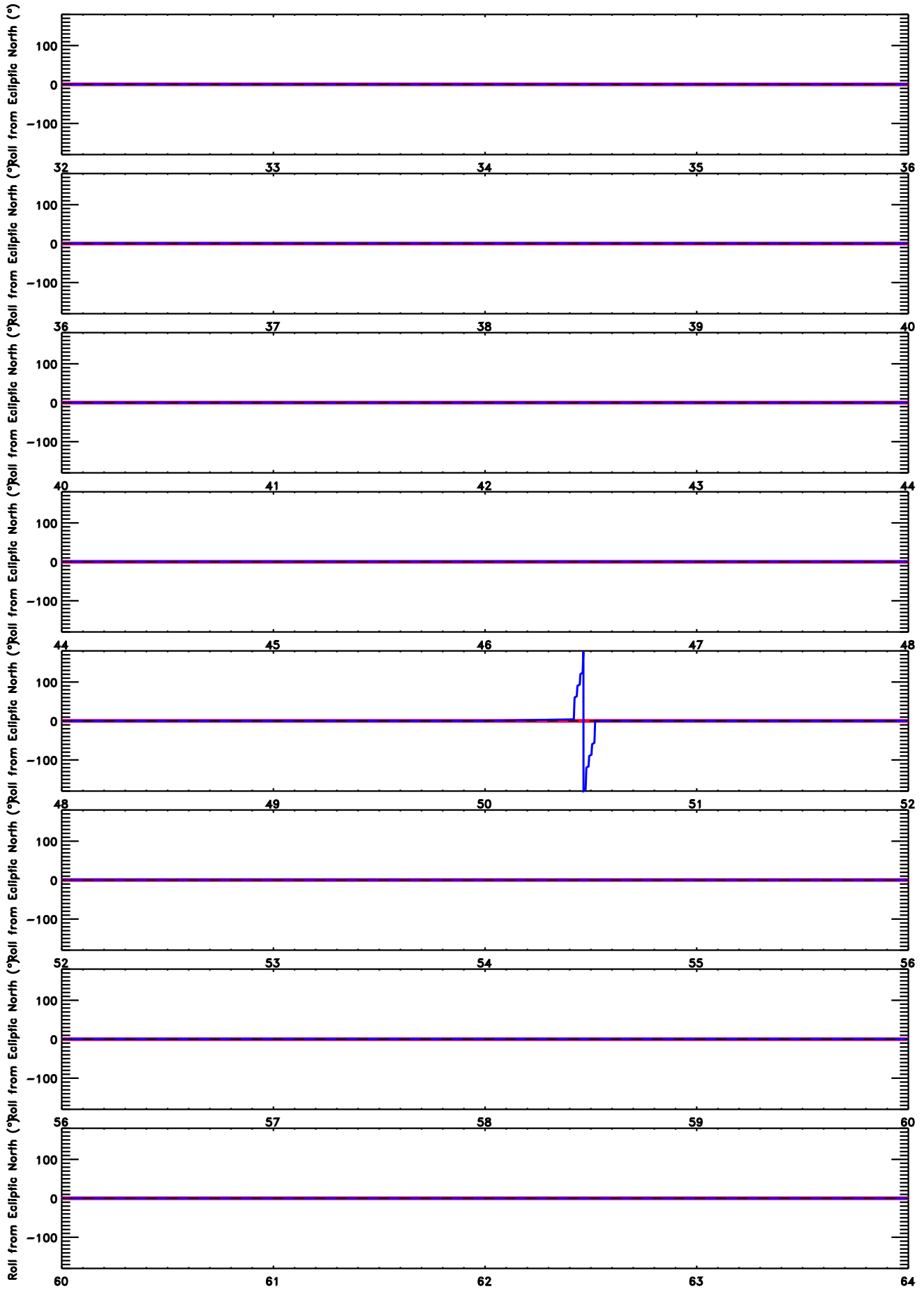
Day of 2007  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



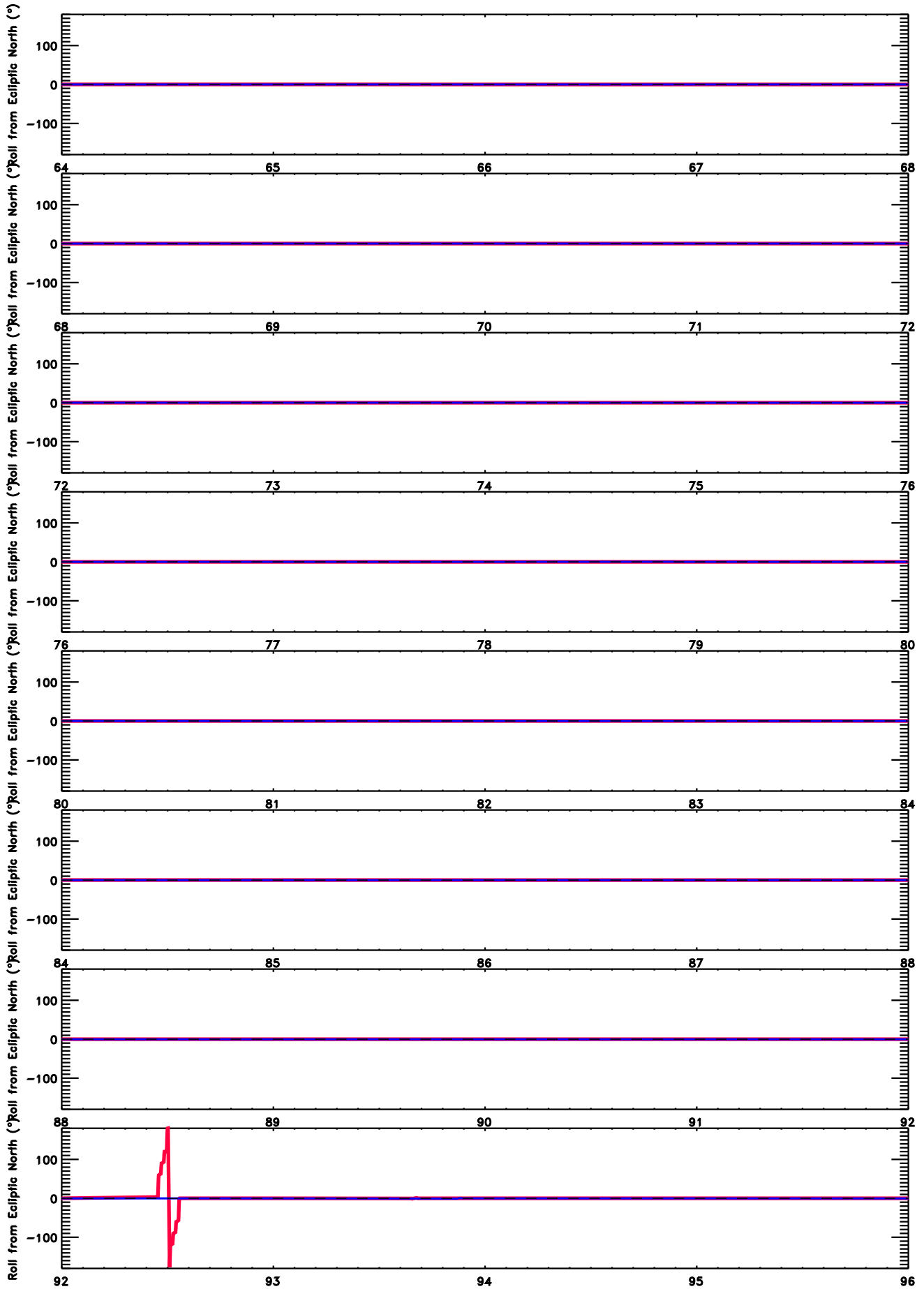
Day of 2008  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



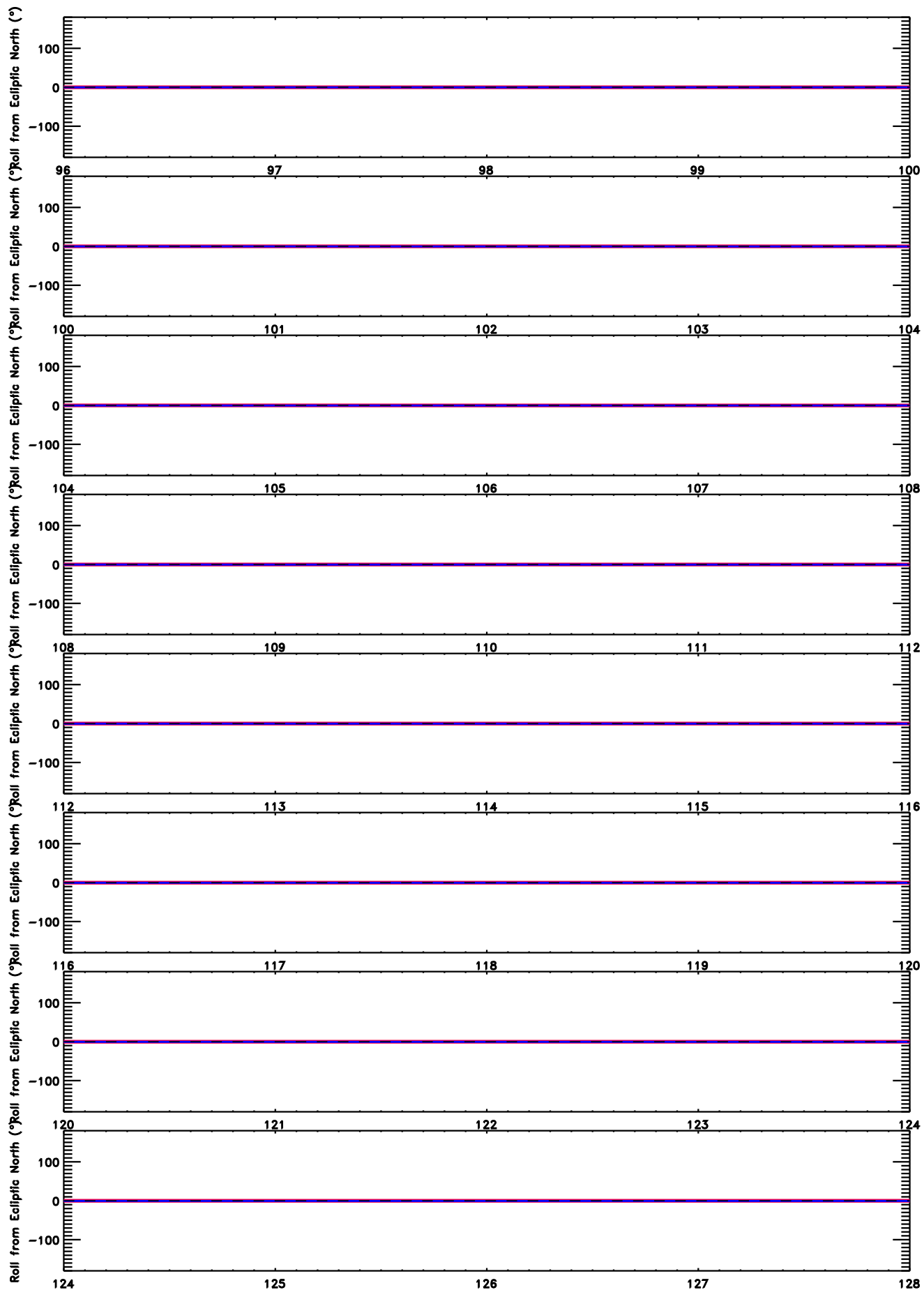
Day of 2008  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



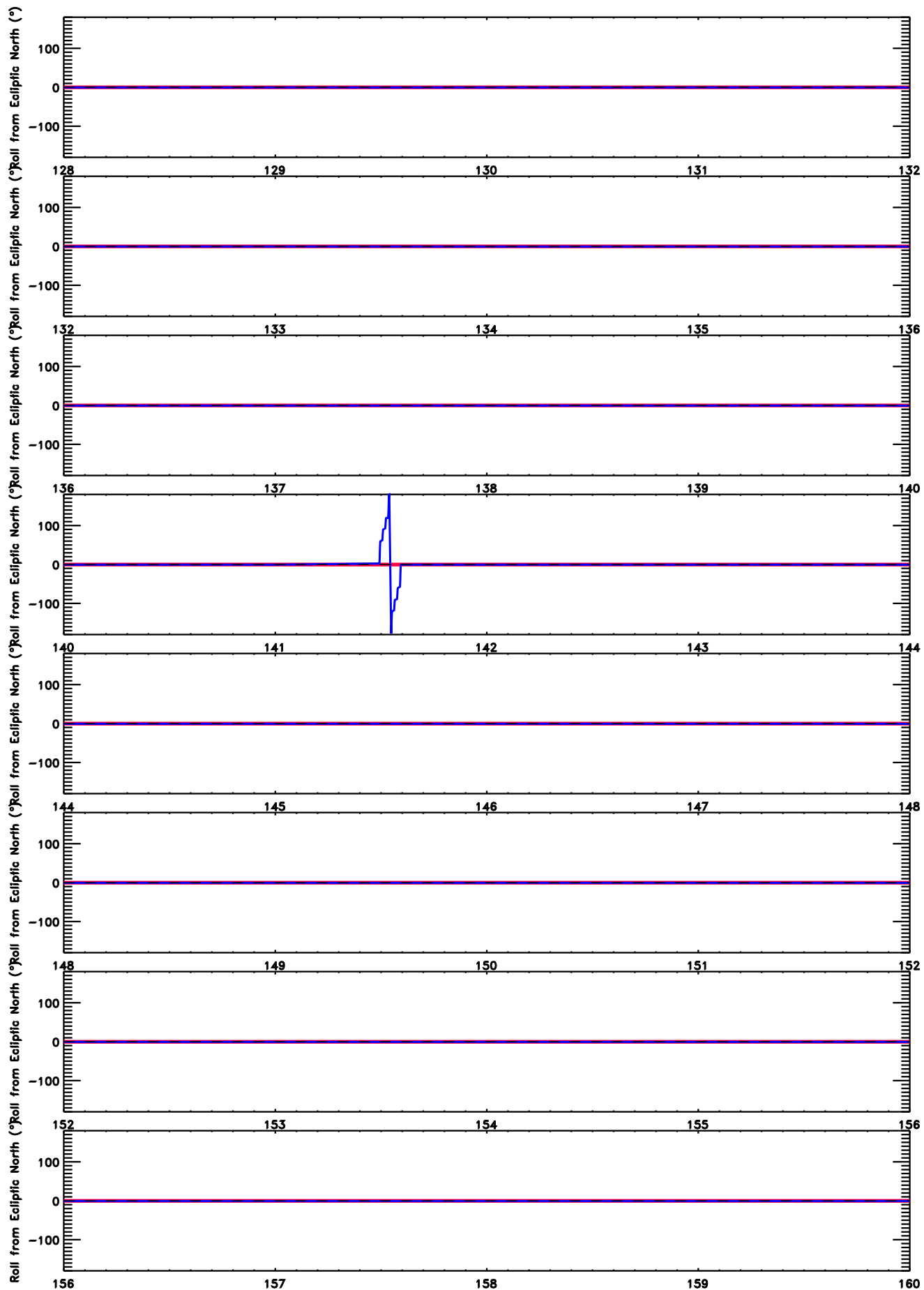
Day of 2008  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



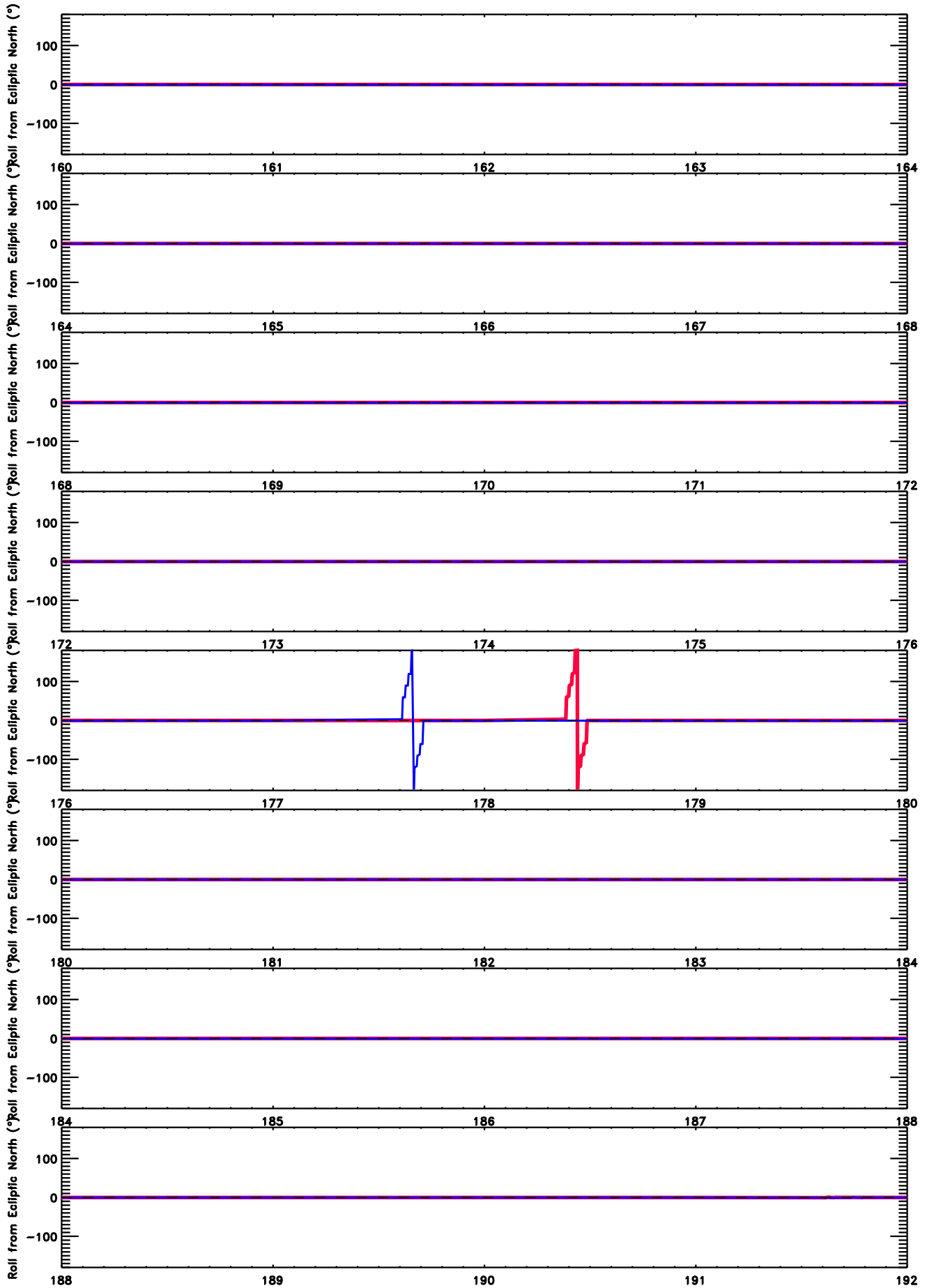
Day of 2008  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2008  
Red = Ahead; Blue = Behind

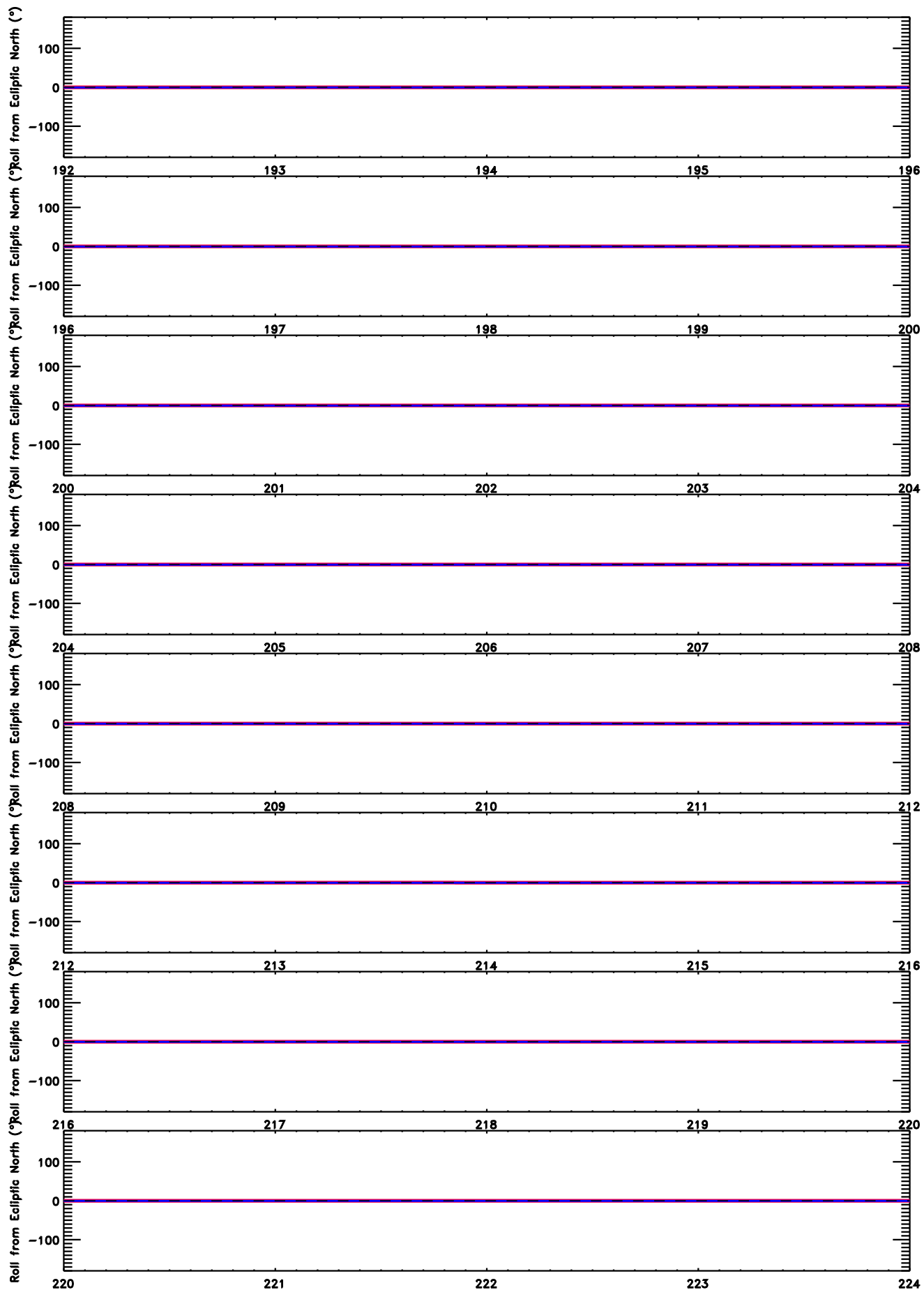
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2008  
Red = Ahead; Blue = Behind

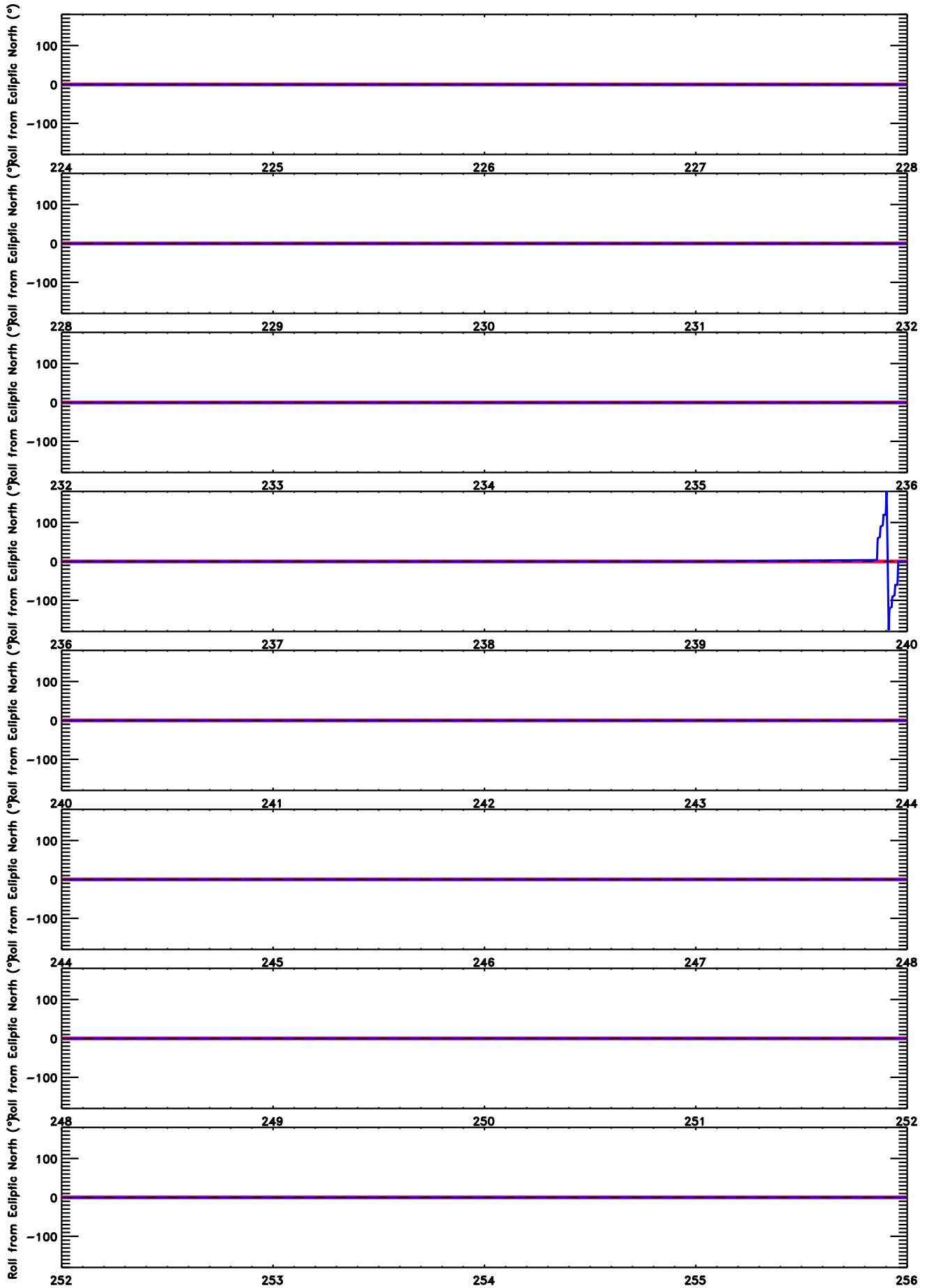


# Roll Angle from Ecliptic North ( $^{\circ}$ )



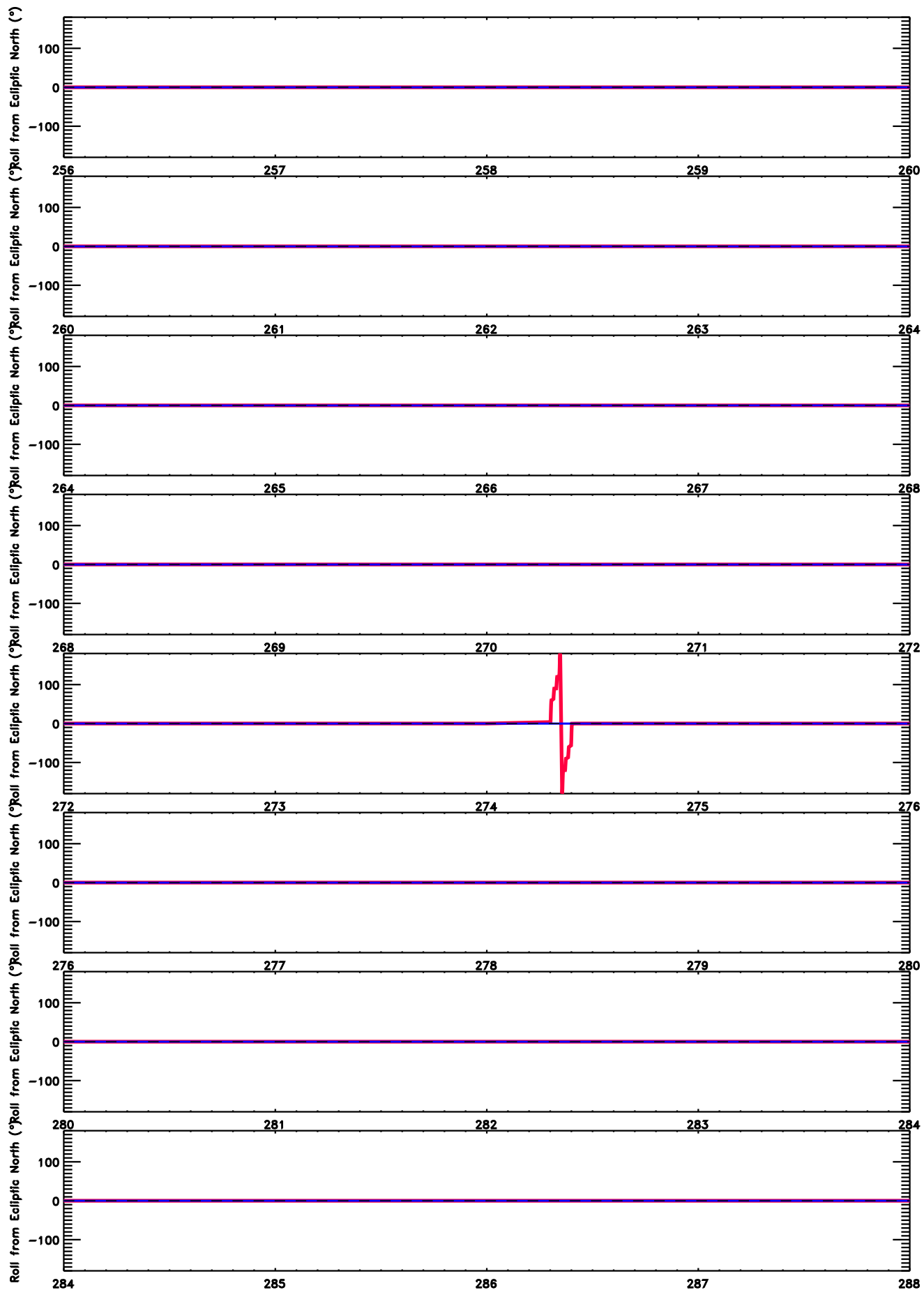
Day of 2008  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



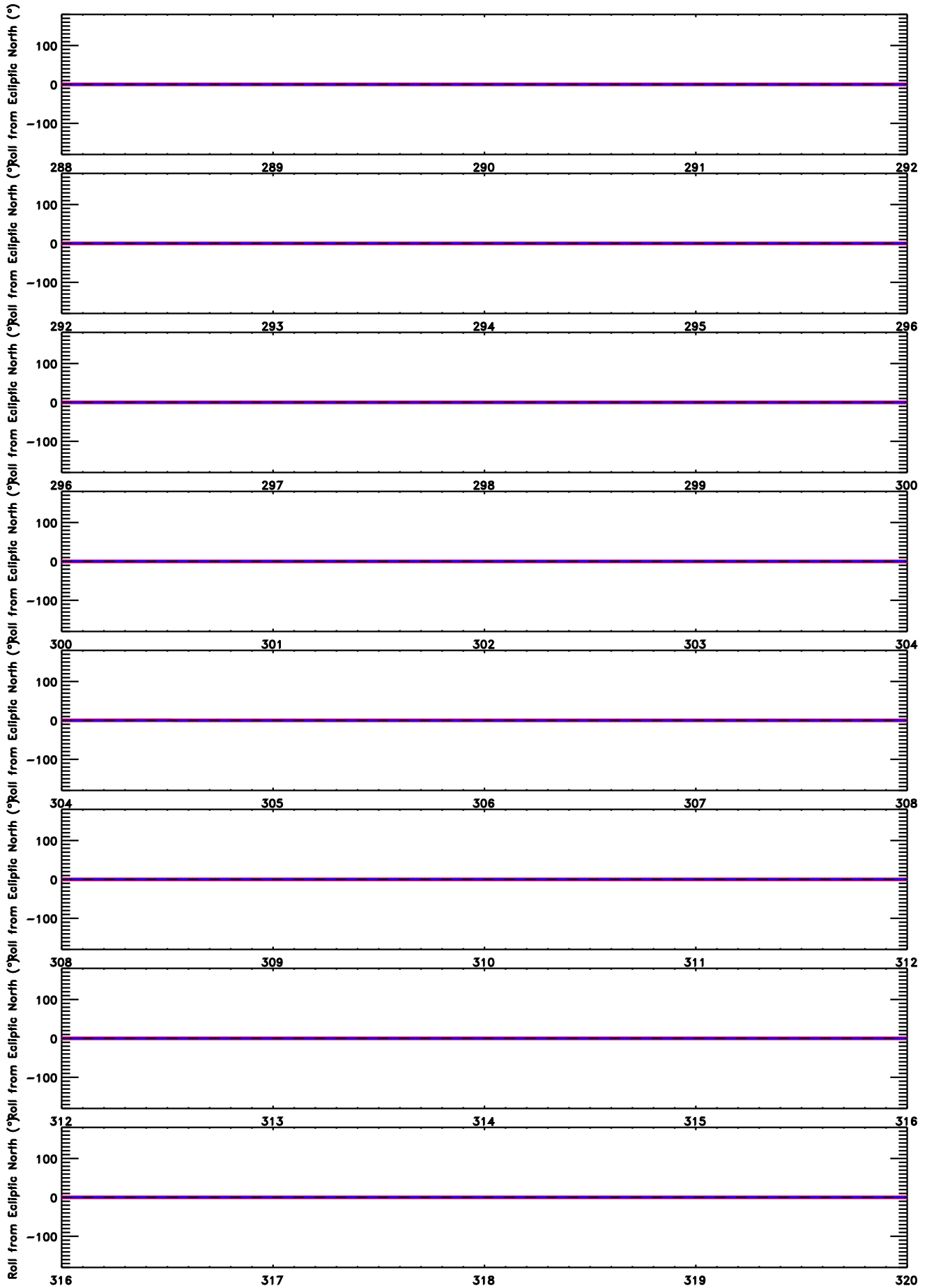
Day of 2008  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



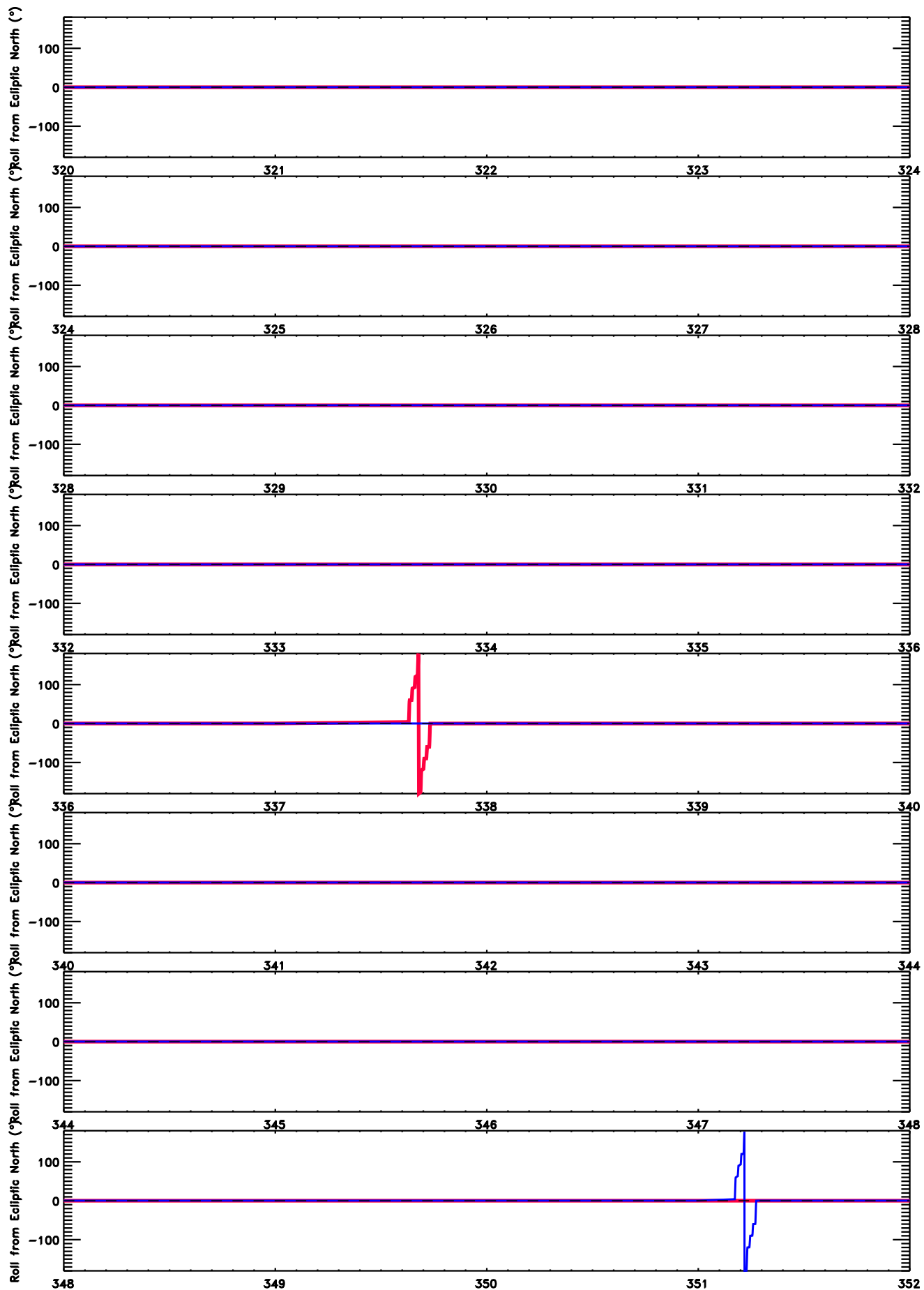
Day of 2008  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



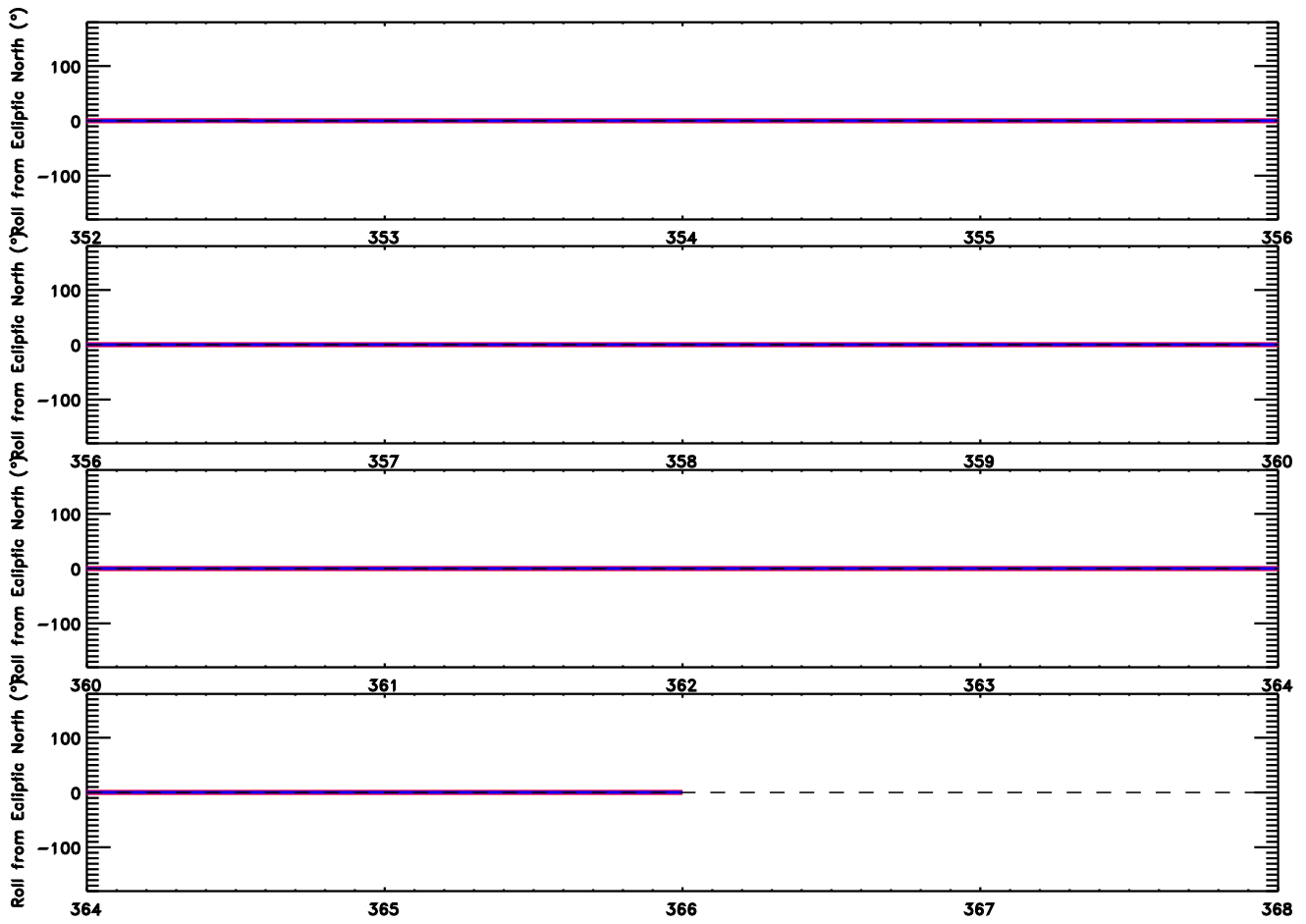
Day of 2008  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



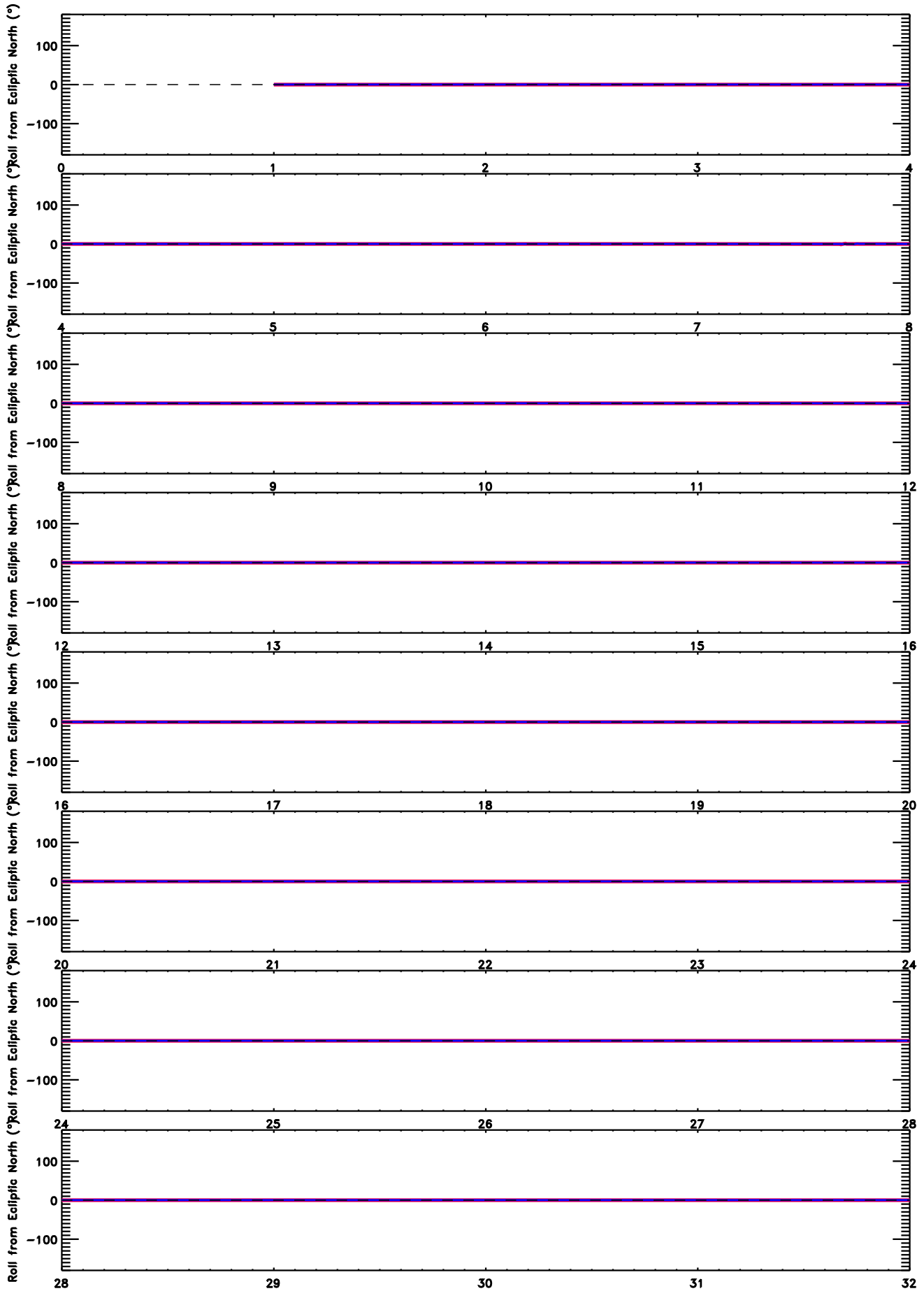
Day of 2008  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2008  
Red = Ahead; Blue = Behind

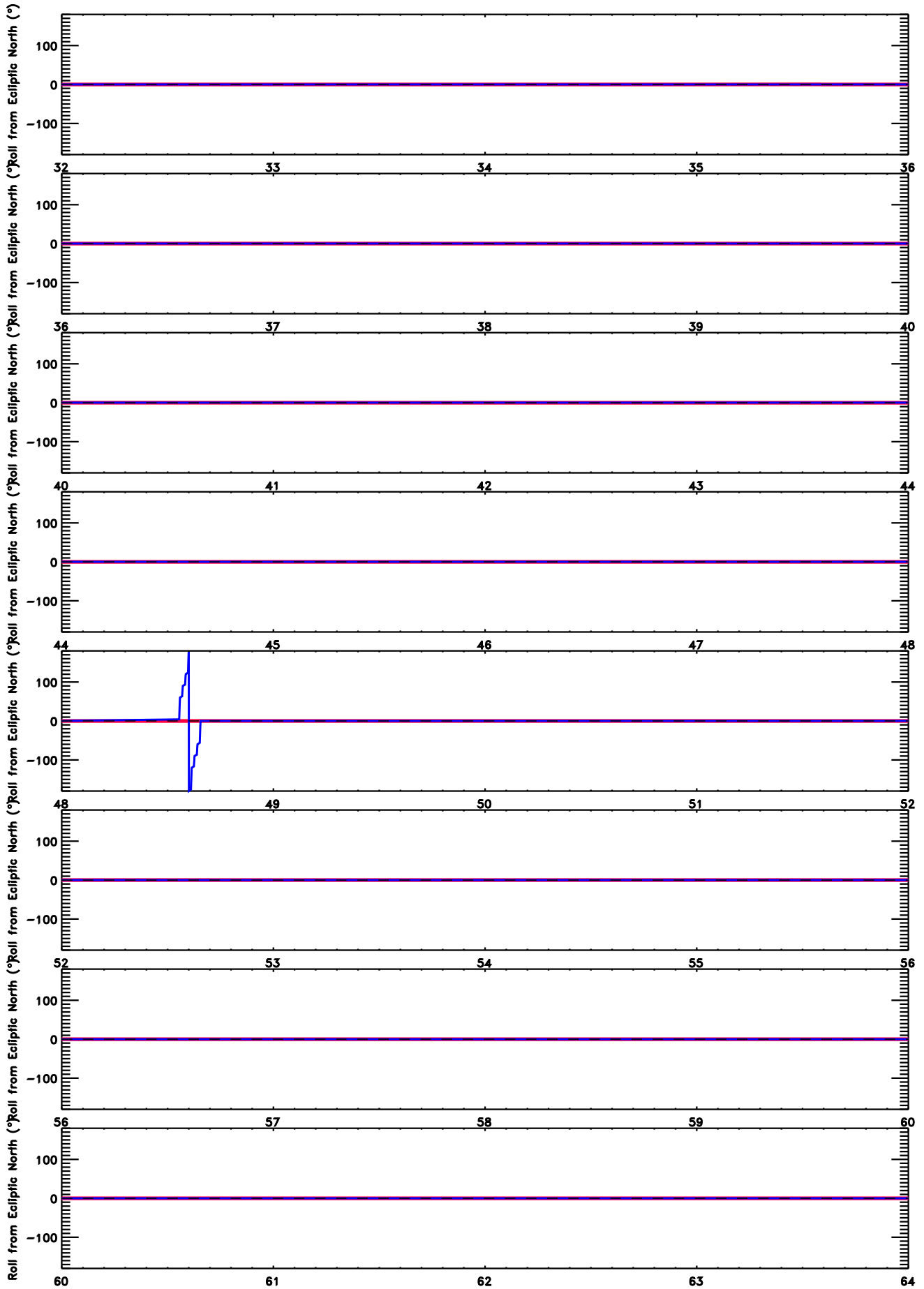
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2009

Red = Ahead; Blue = Behind

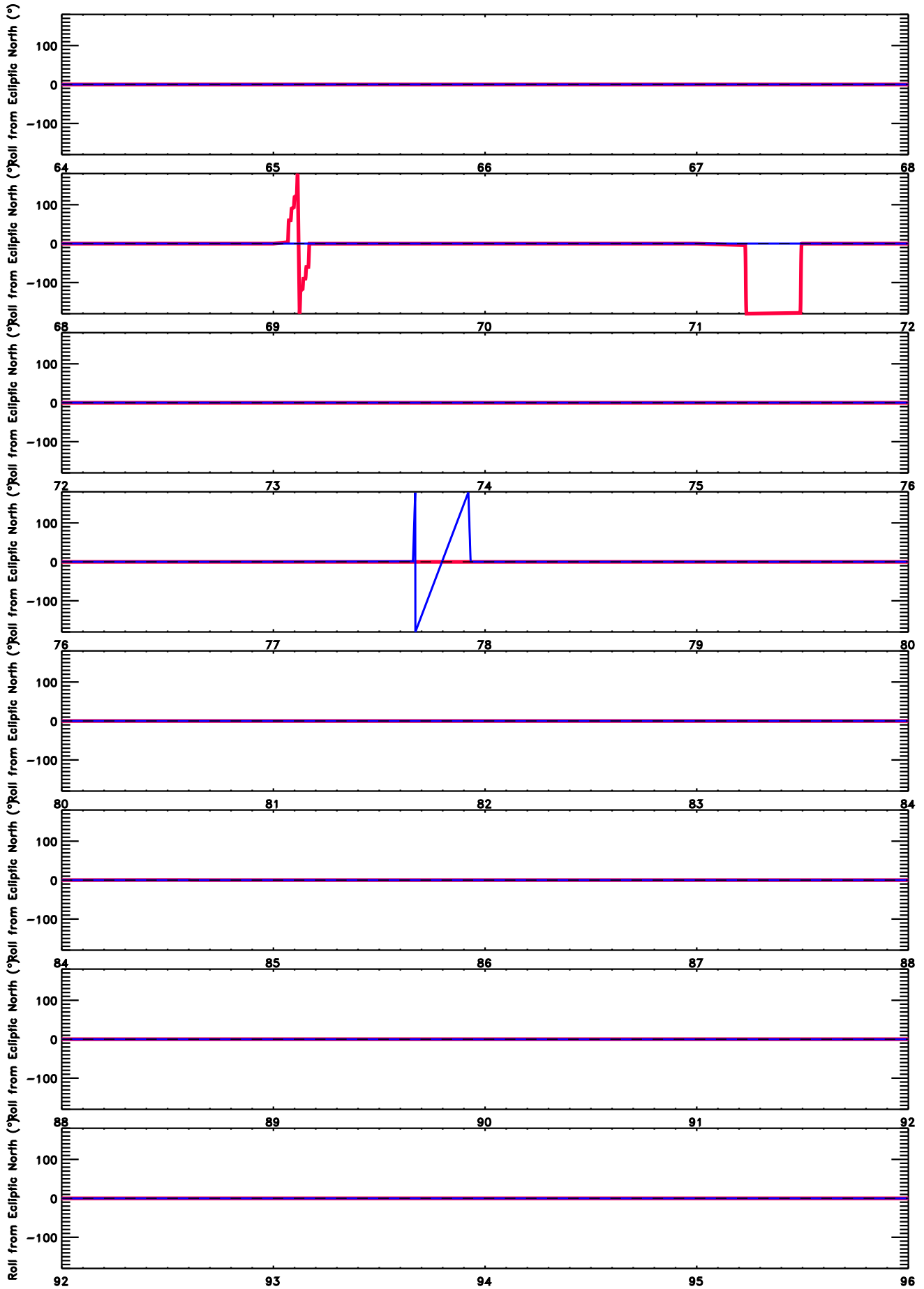
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2009  
Red = Ahead; Blue = Behind

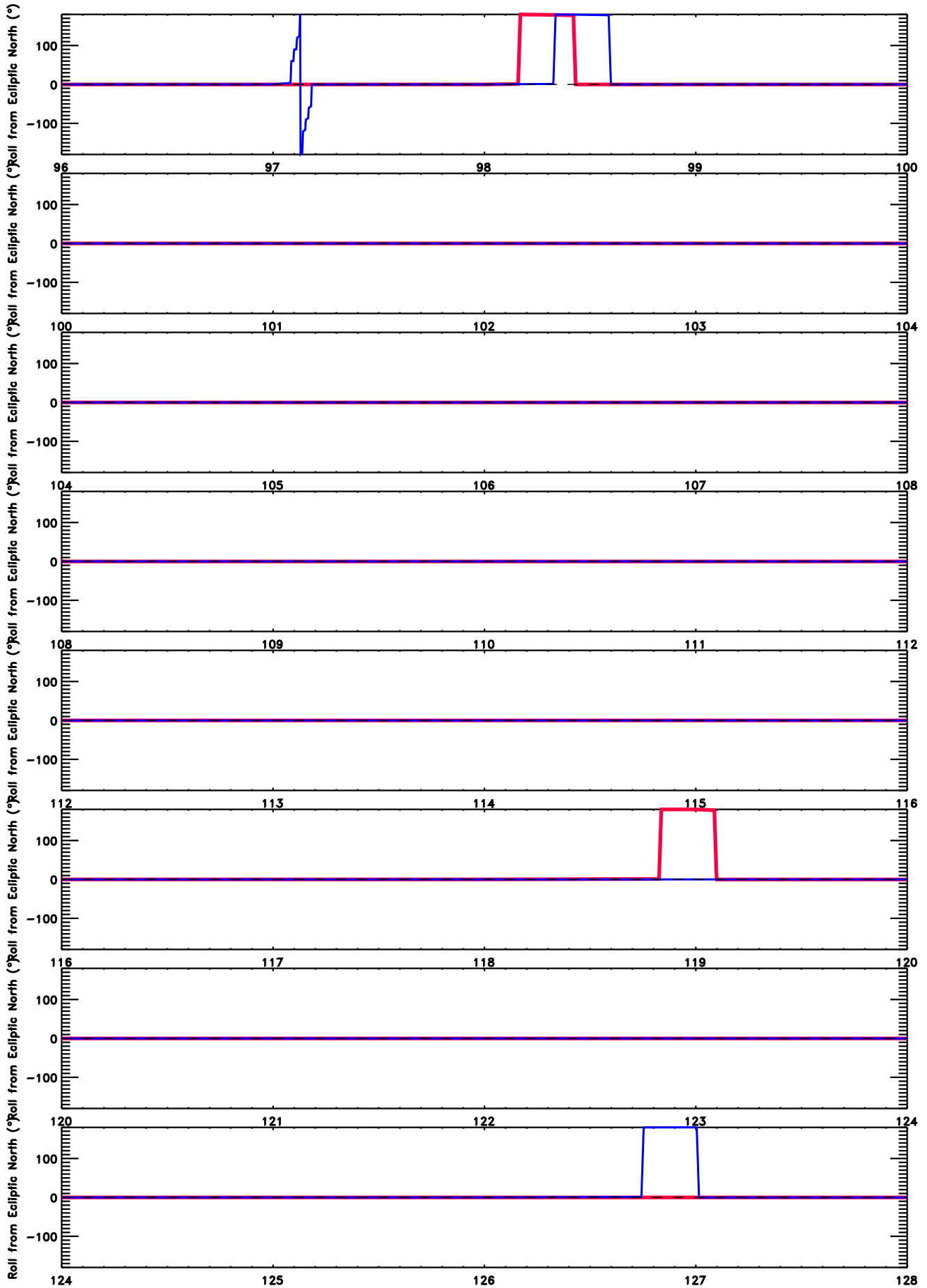


# Roll Angle from Ecliptic North ( $^{\circ}$ )



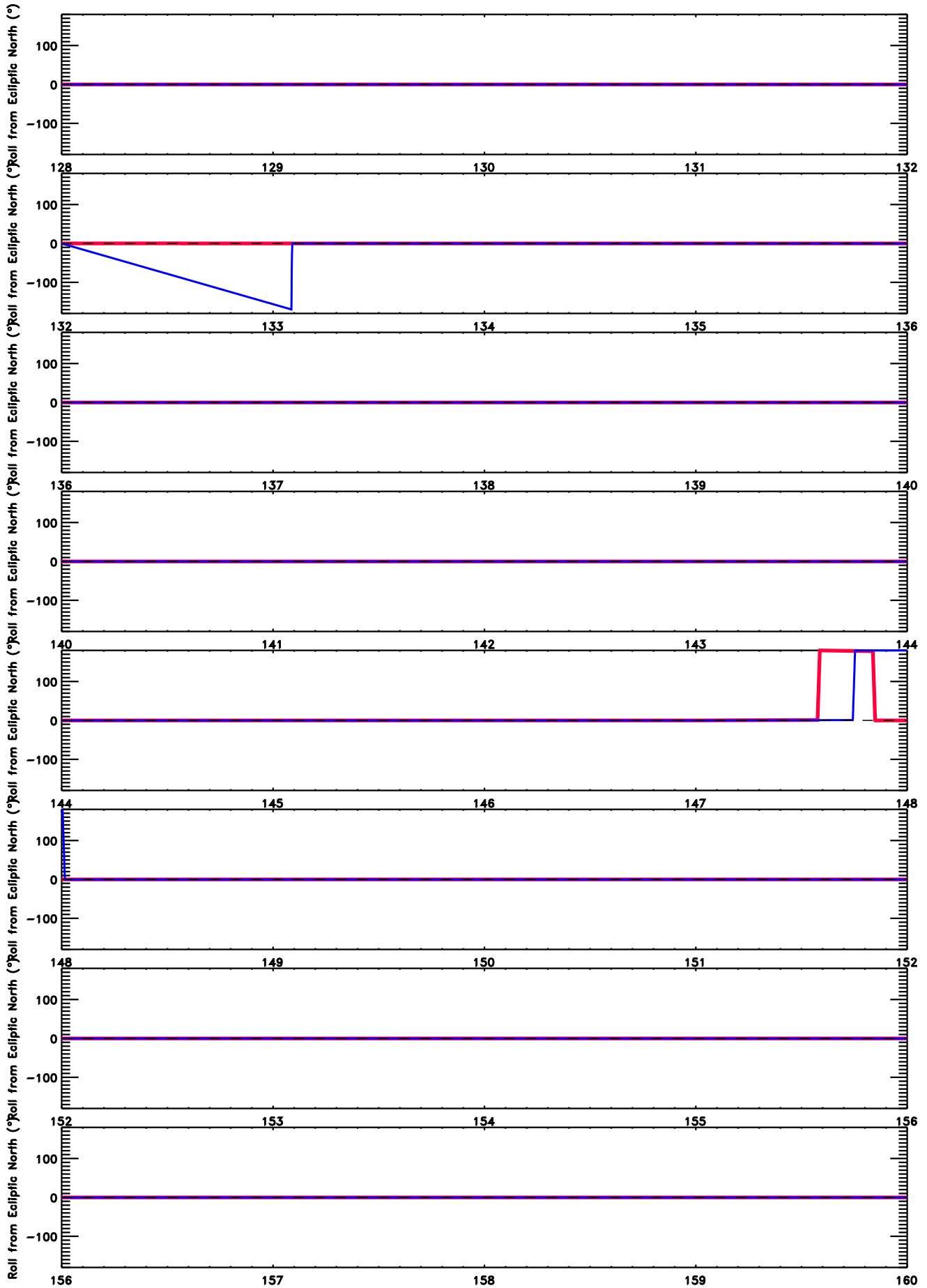
Day of 2009  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



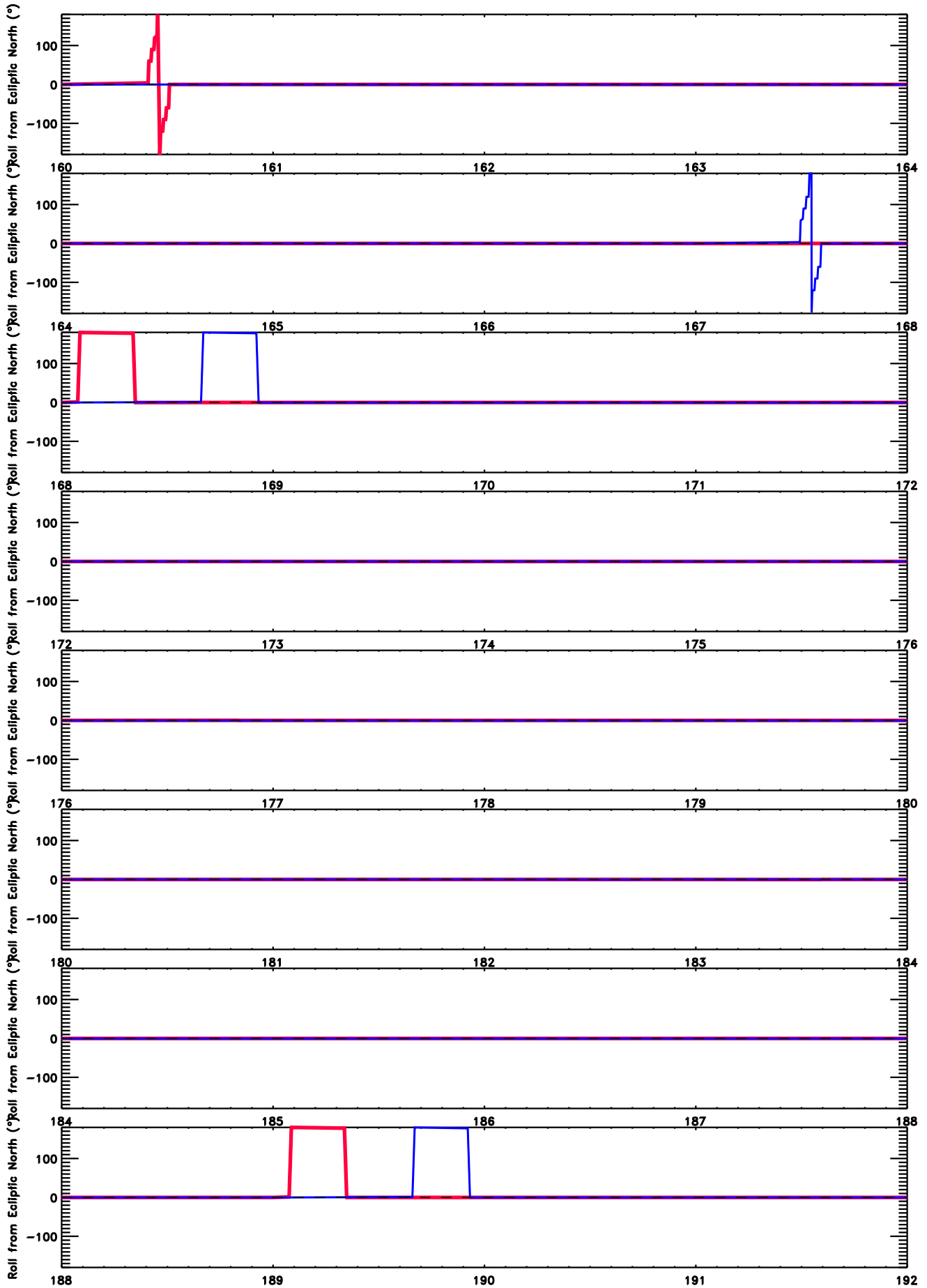
Day of 2009  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



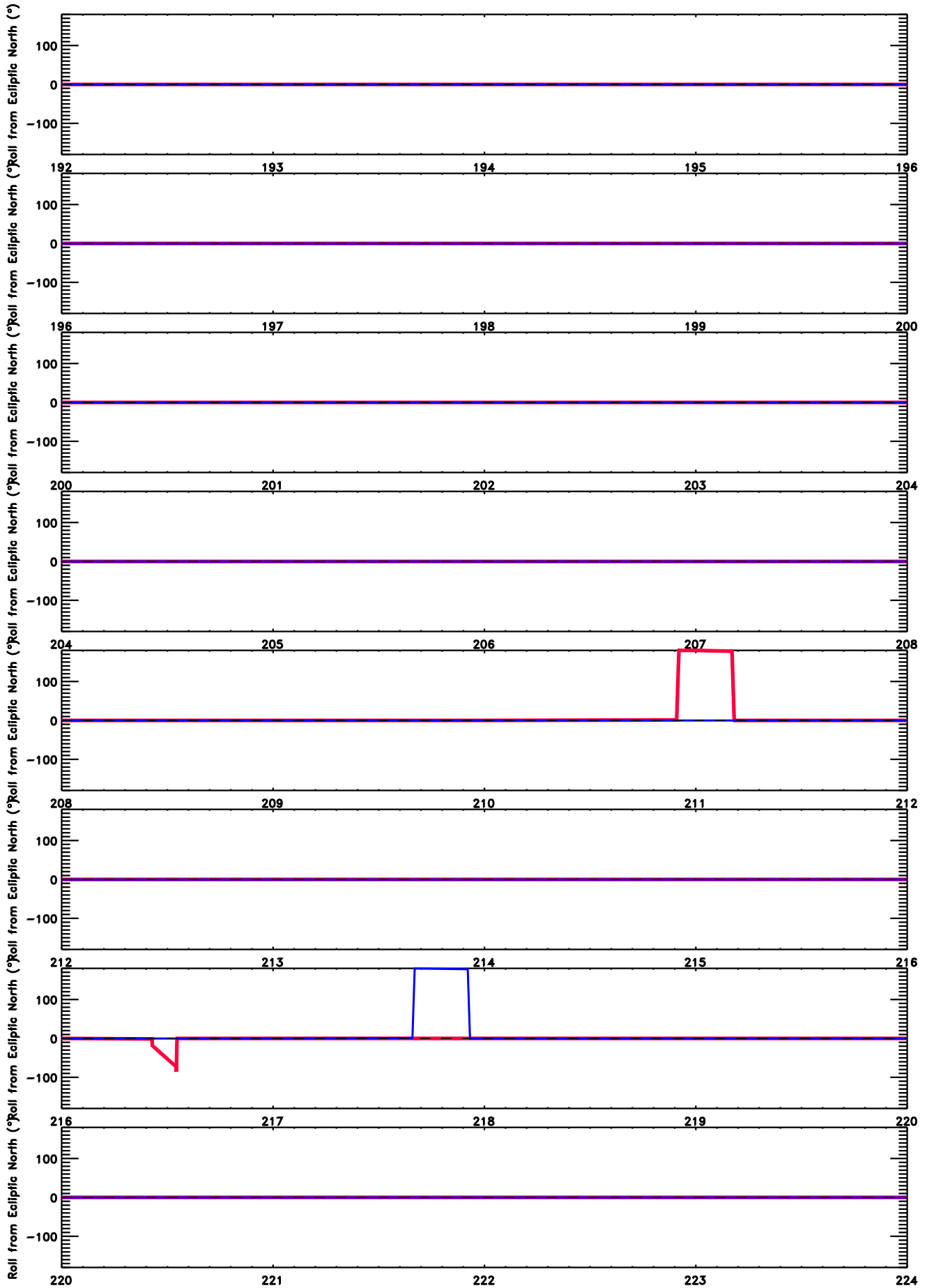
Day of 2009  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



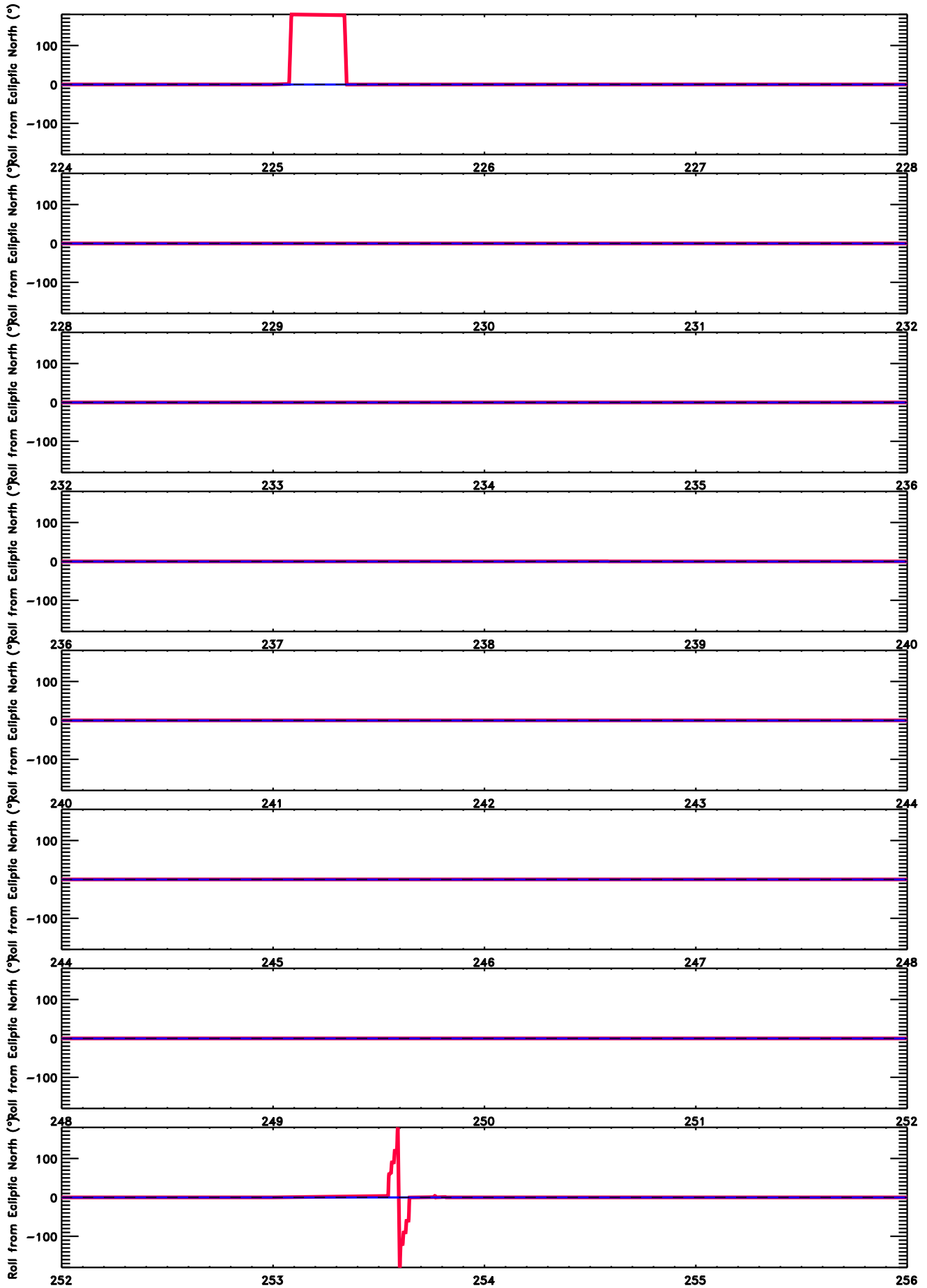
Day of 2009  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



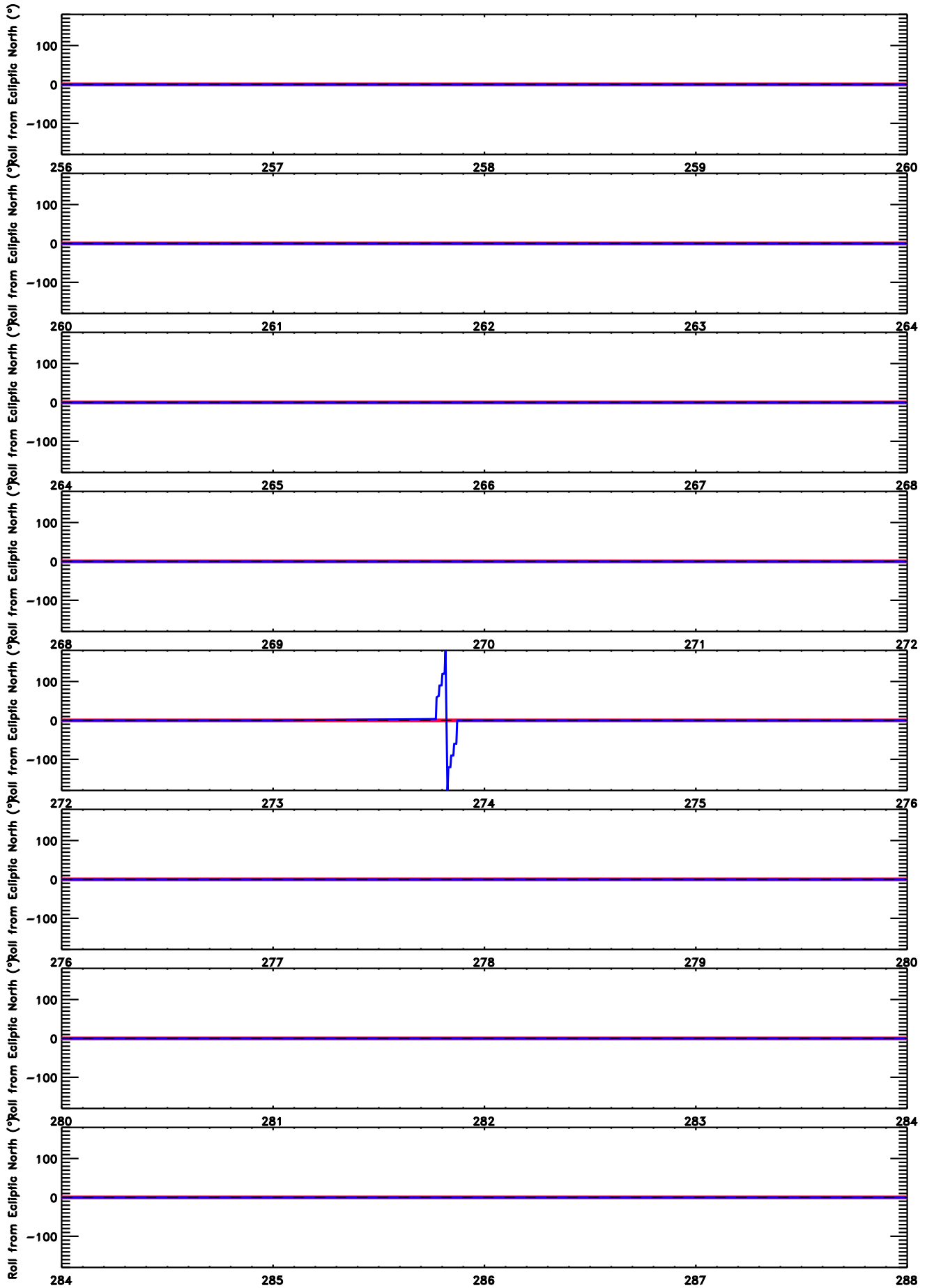
Day of 2009  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



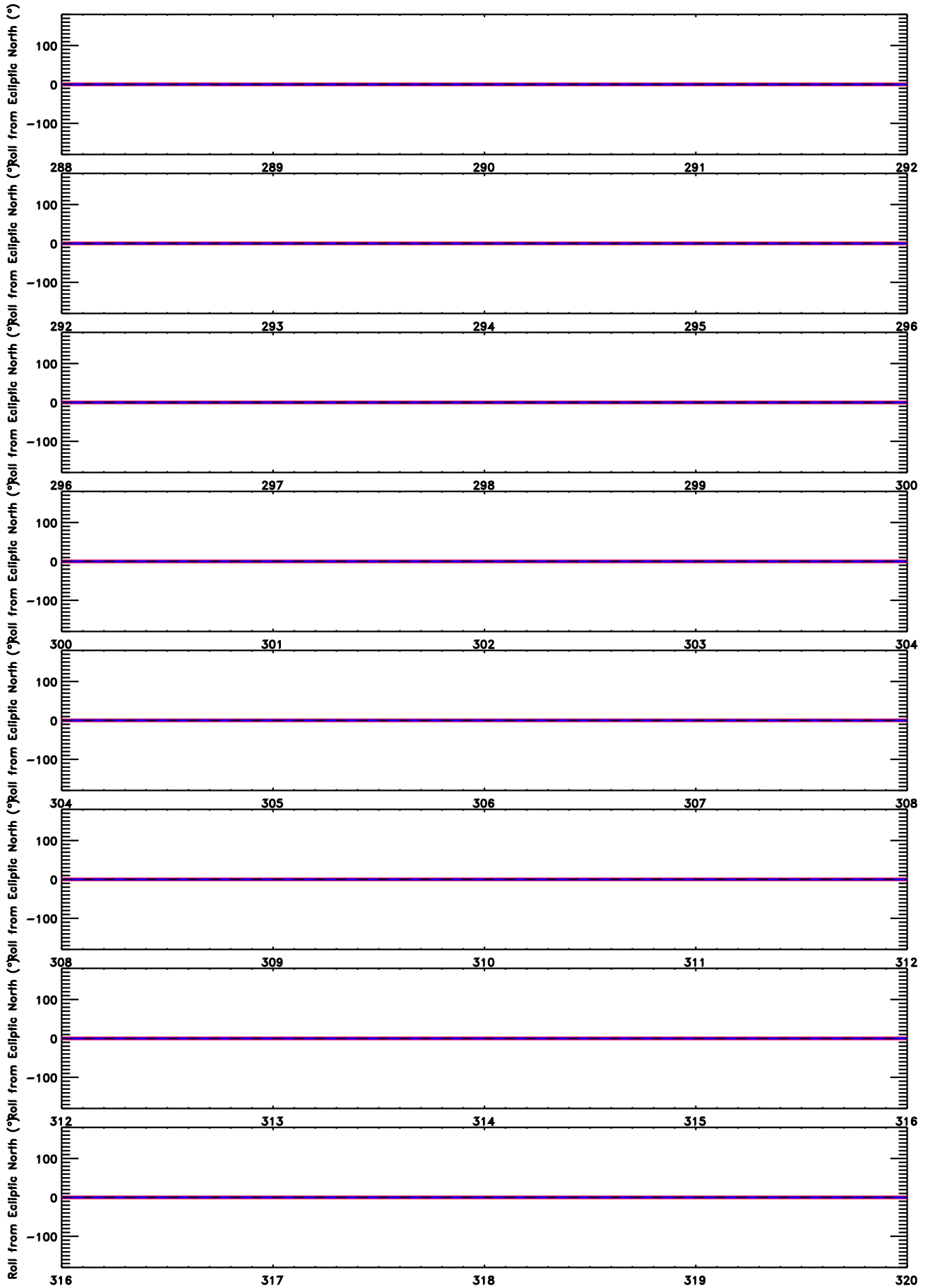
Day of 2009  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2009  
Red = Ahead; Blue = Behind

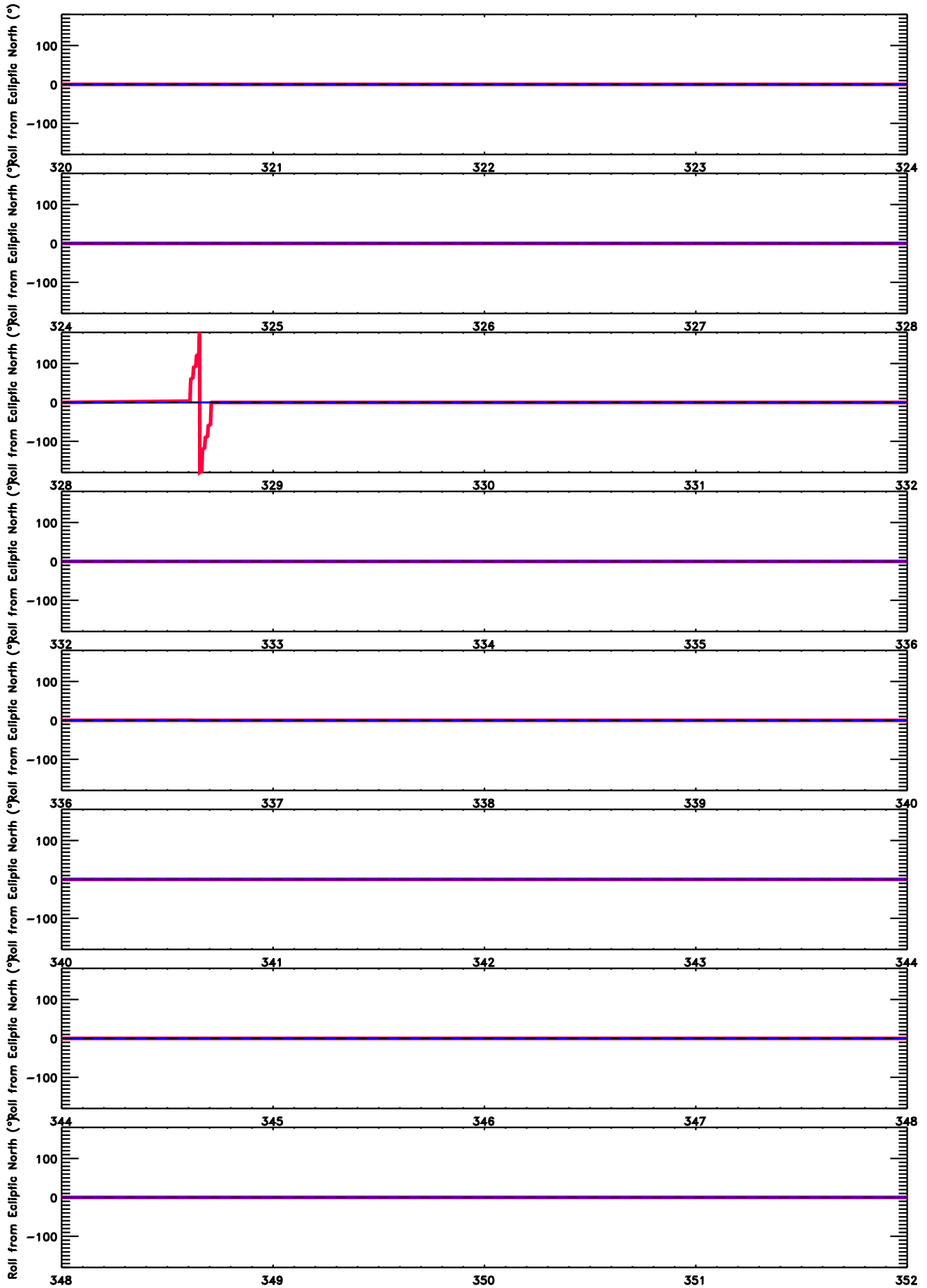
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2009  
Red = Ahead; Blue = Behind

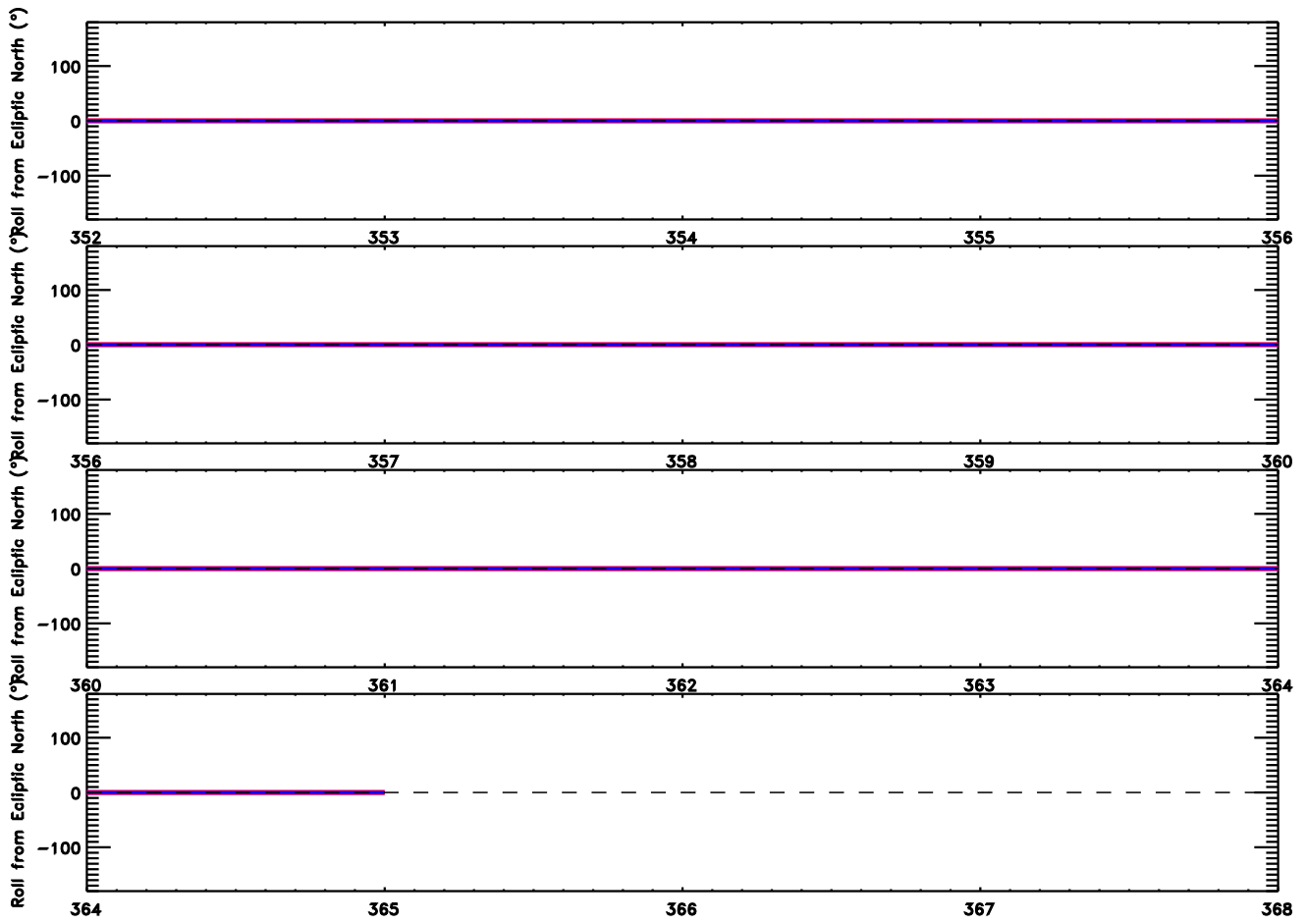


# Roll Angle from Ecliptic North ( $^{\circ}$ )



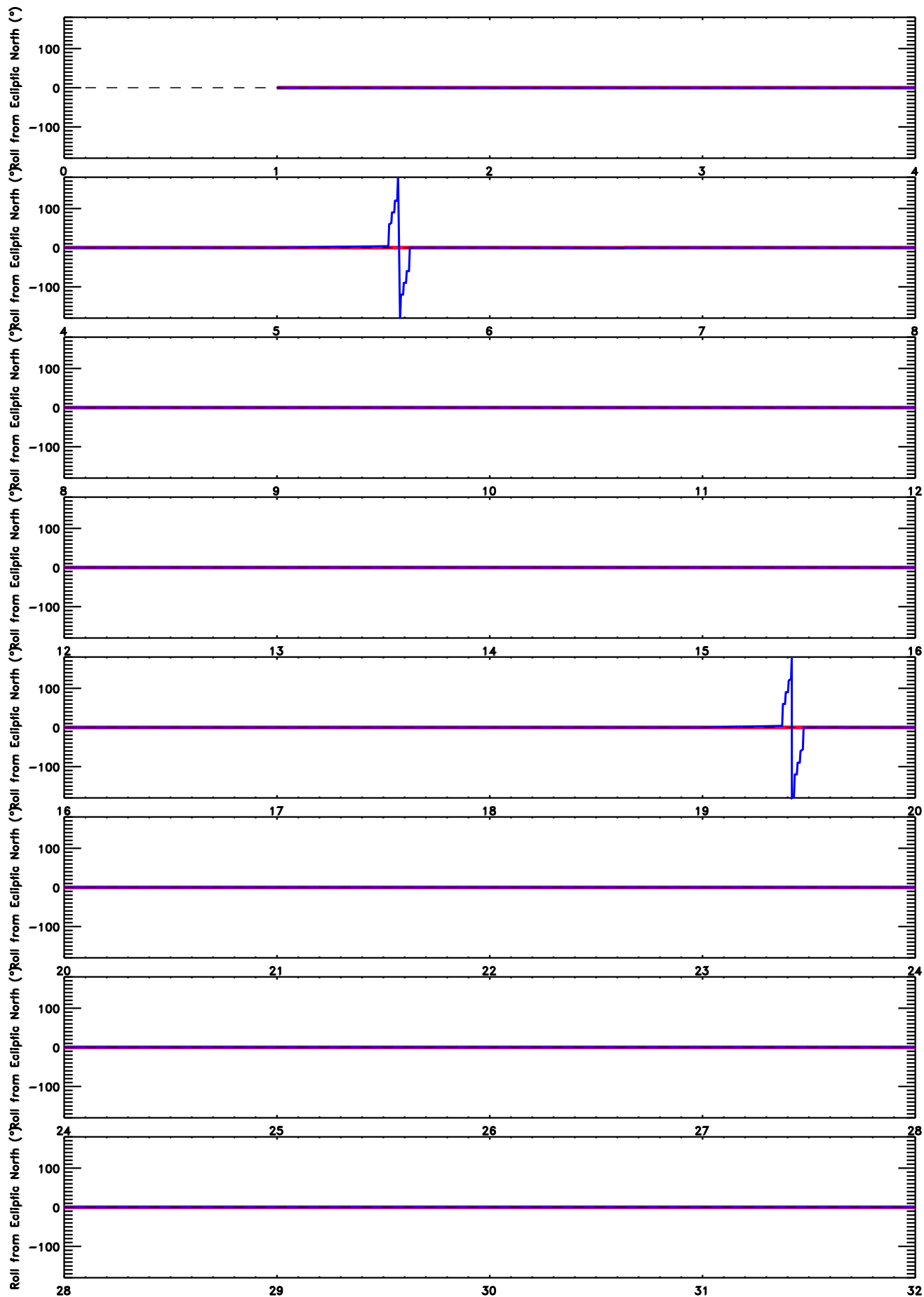
Day of 2009  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



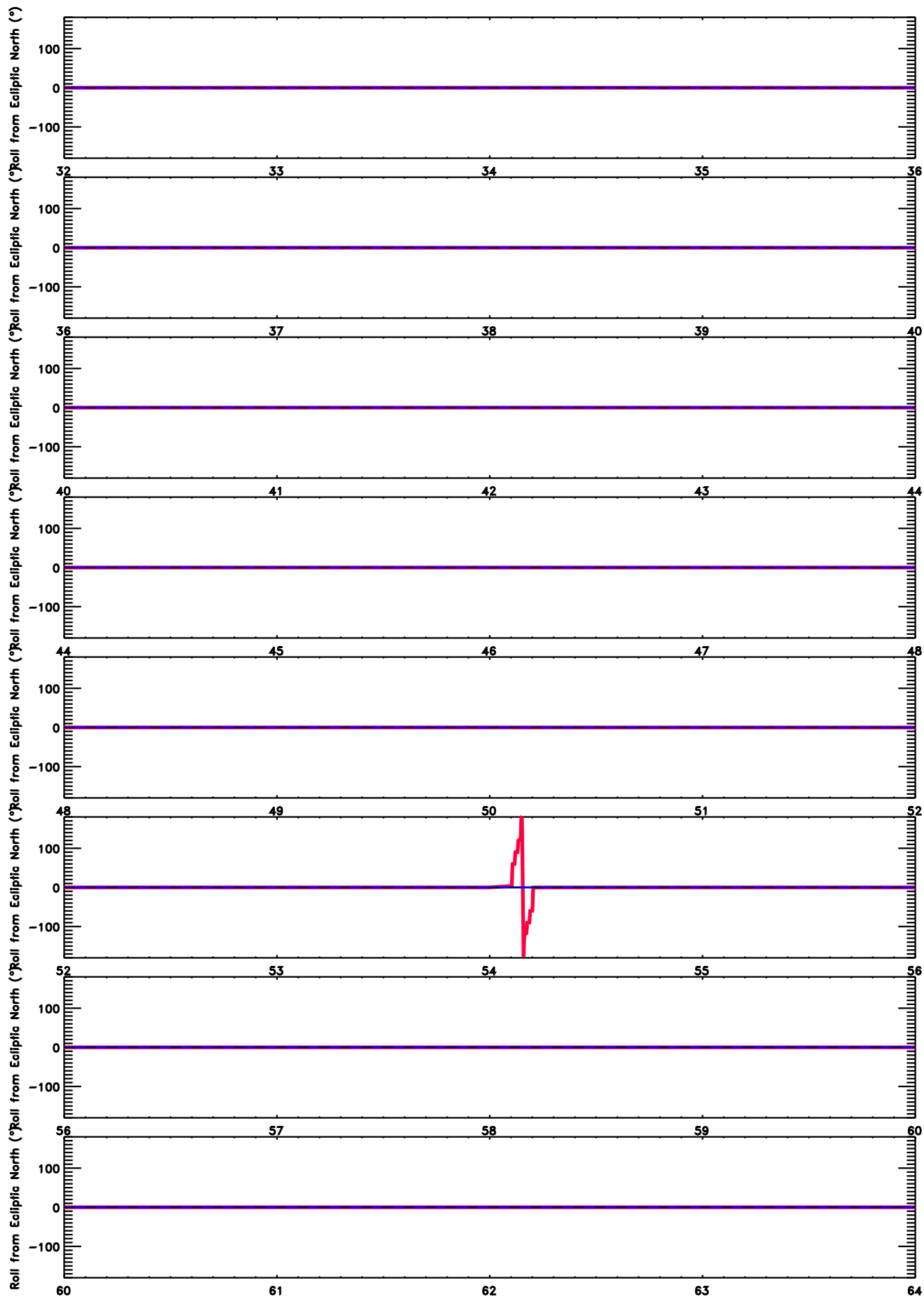
Day of 2009  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



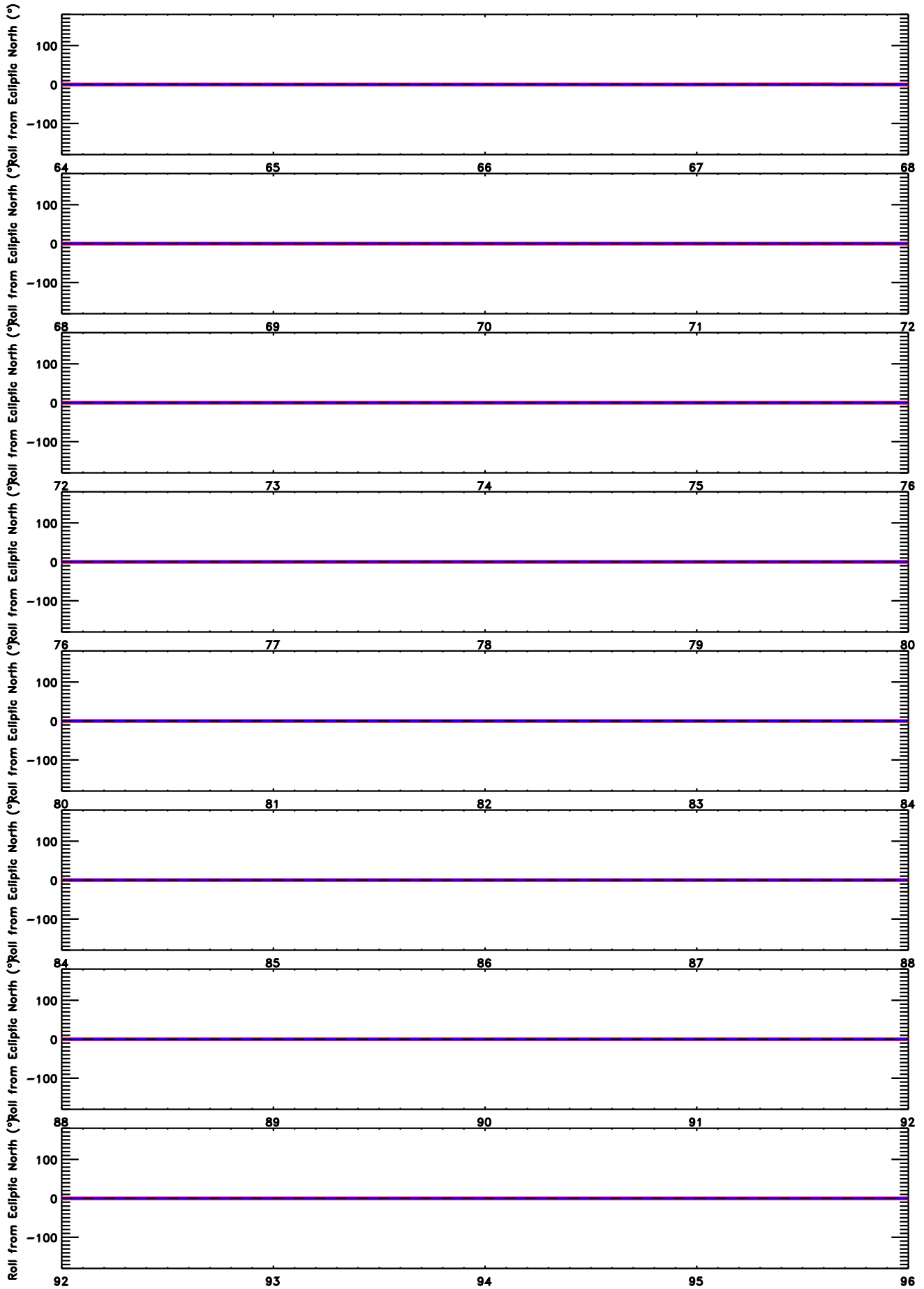
Day of 2010  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



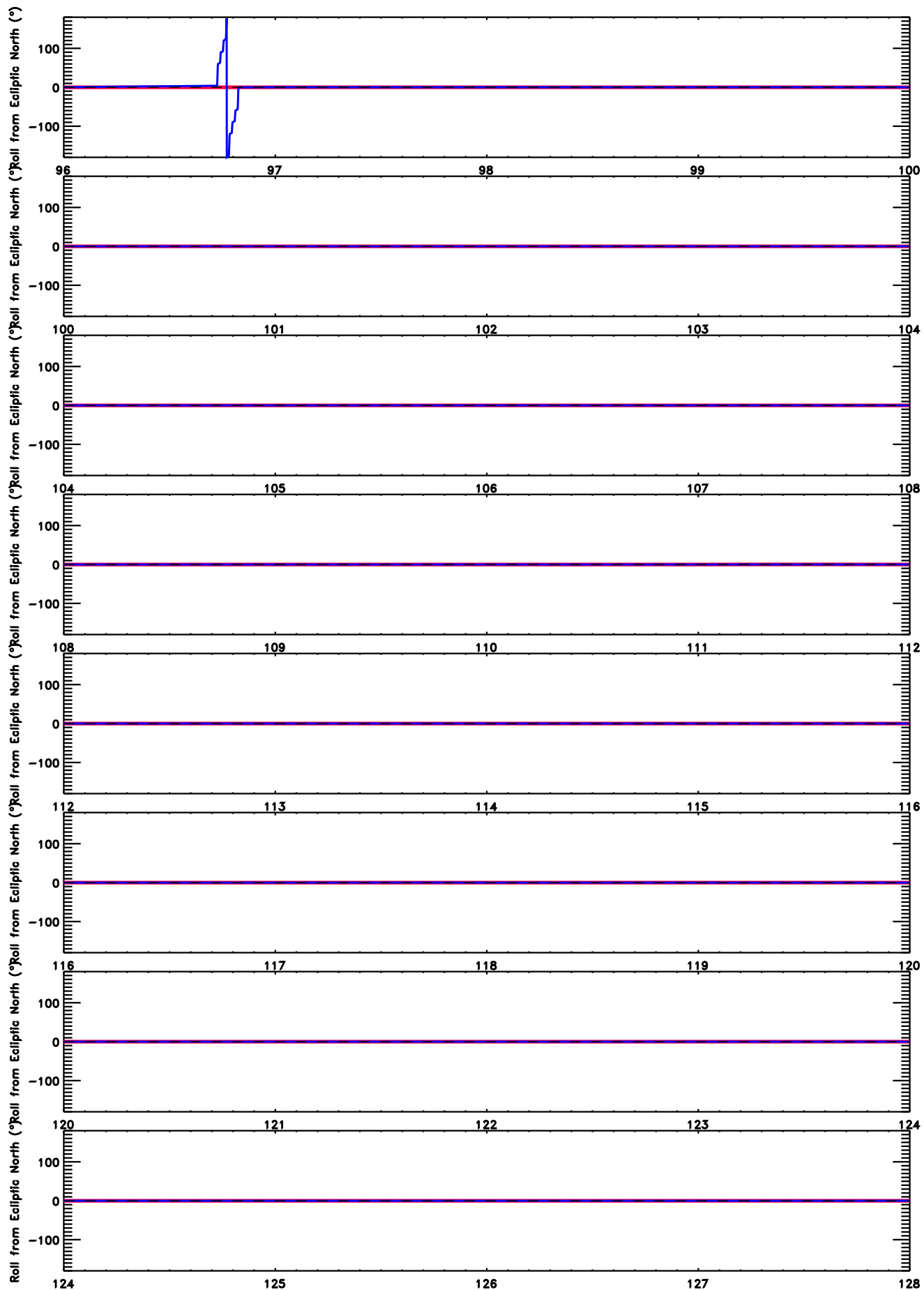
Day of 2010  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



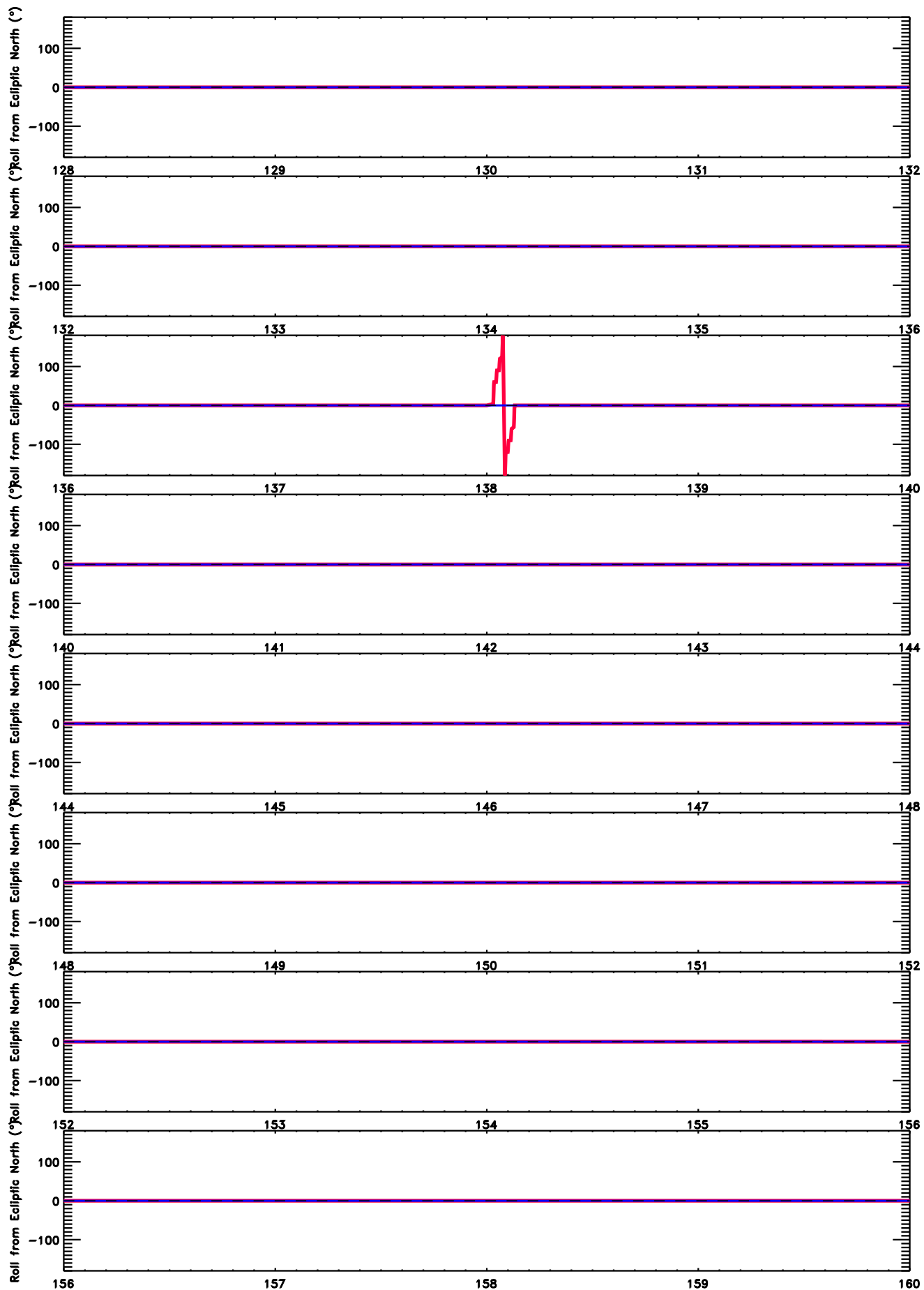
Day of 2010  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



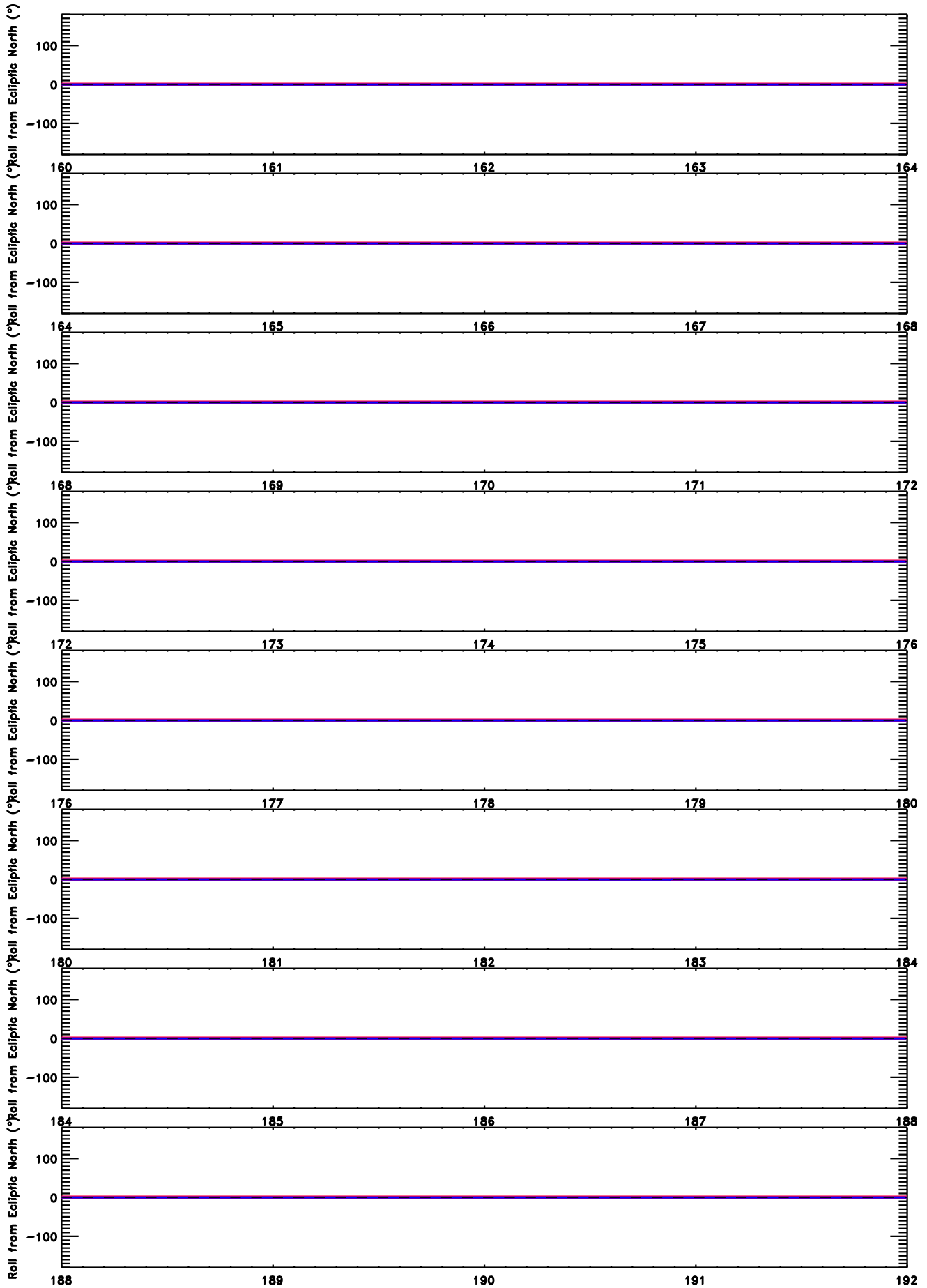
Day of 2010  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2010  
Red = Ahead; Blue = Behind

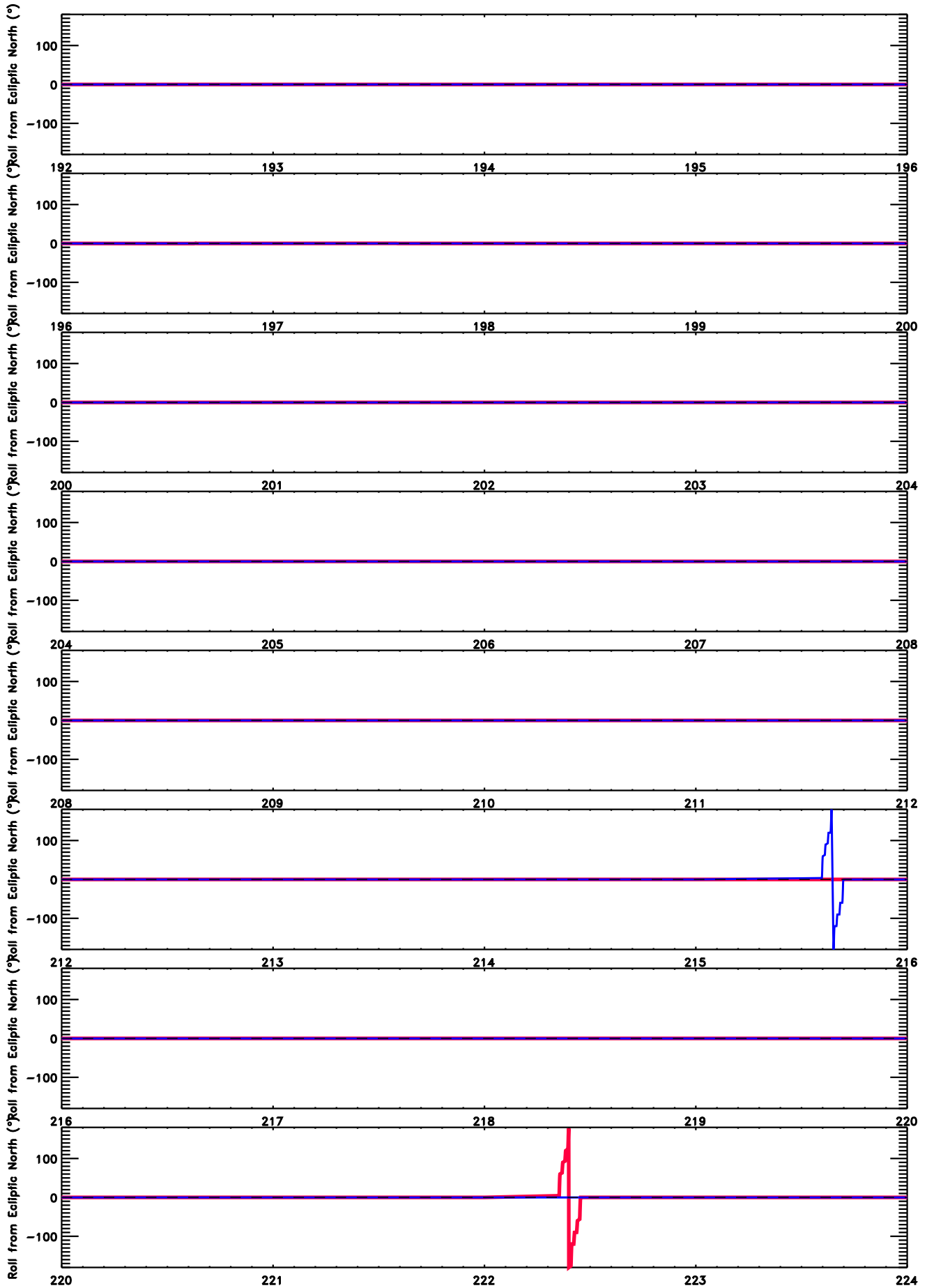
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2010  
Red = Ahead; Blue = Behind

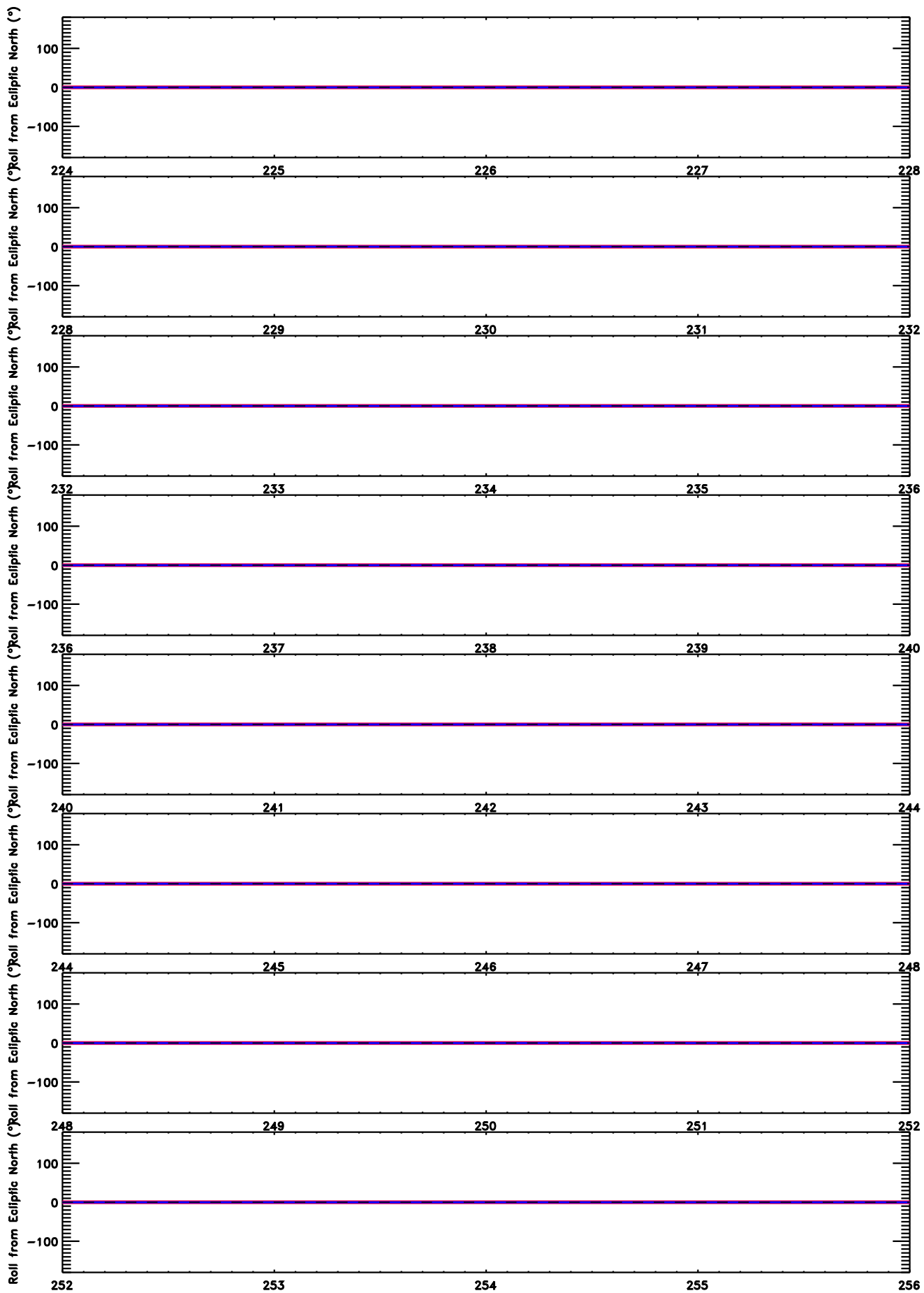


# Roll Angle from Ecliptic North ( $^{\circ}$ )



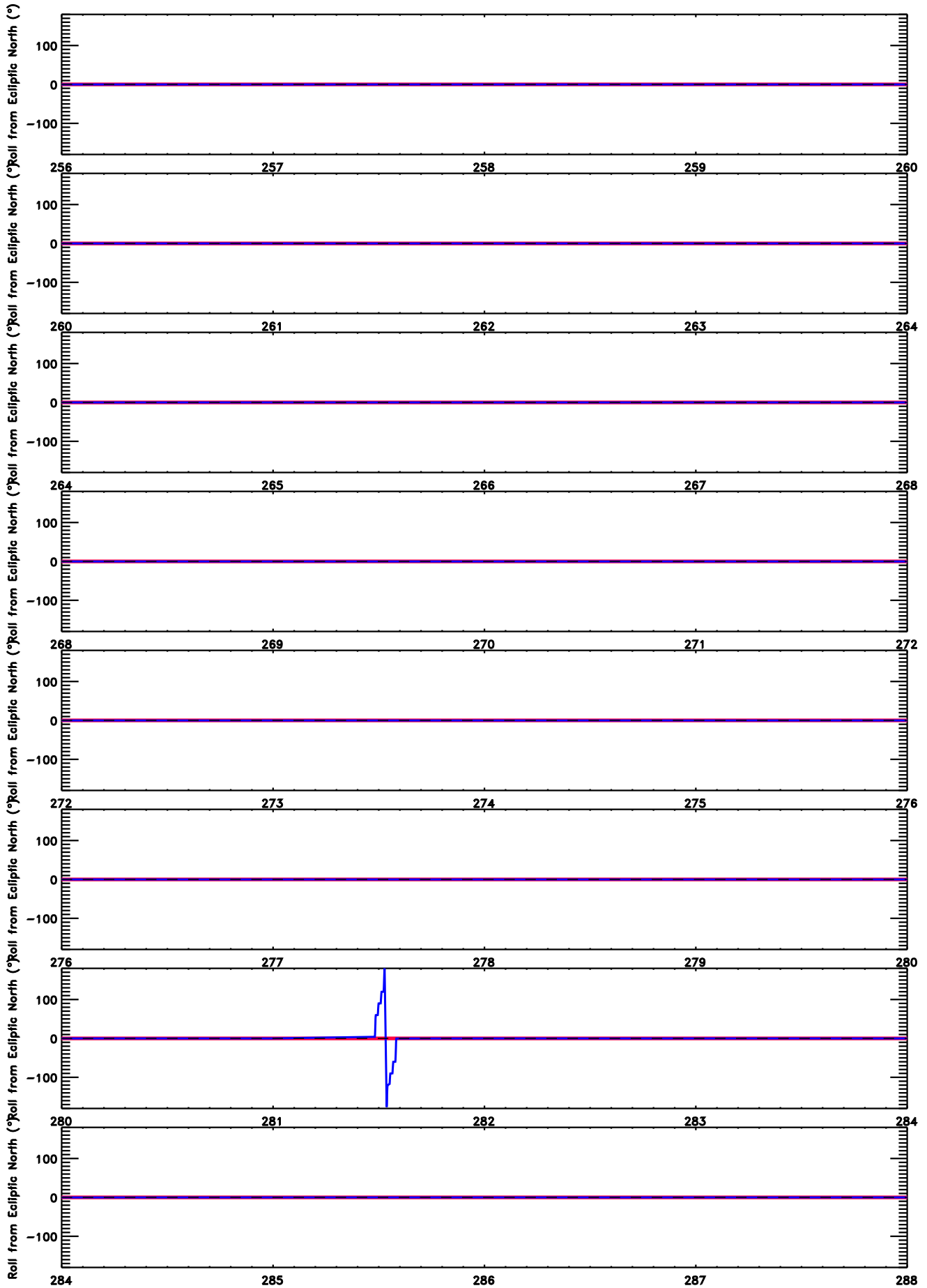
Day of 2010  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



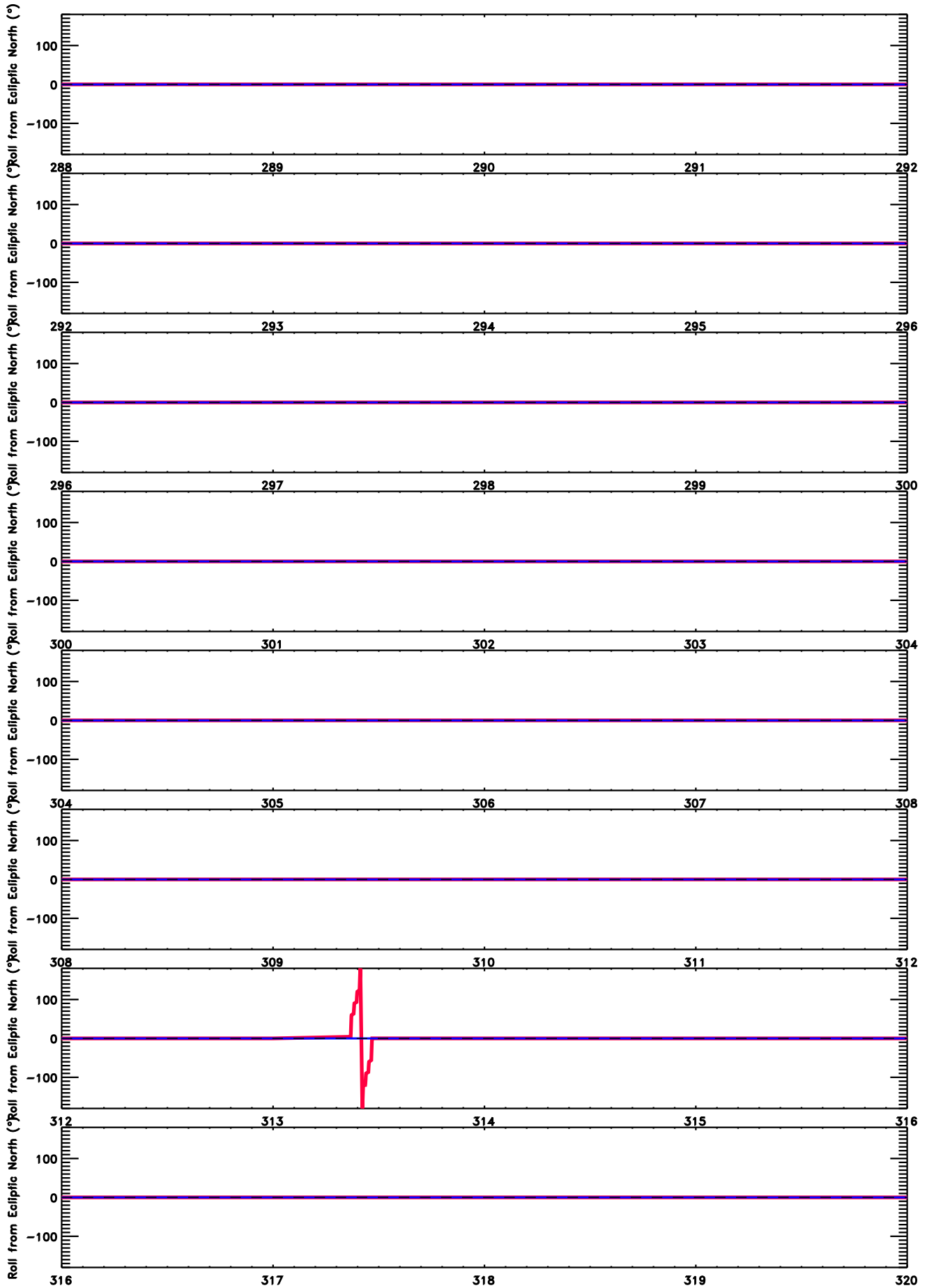
Day of 2010  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



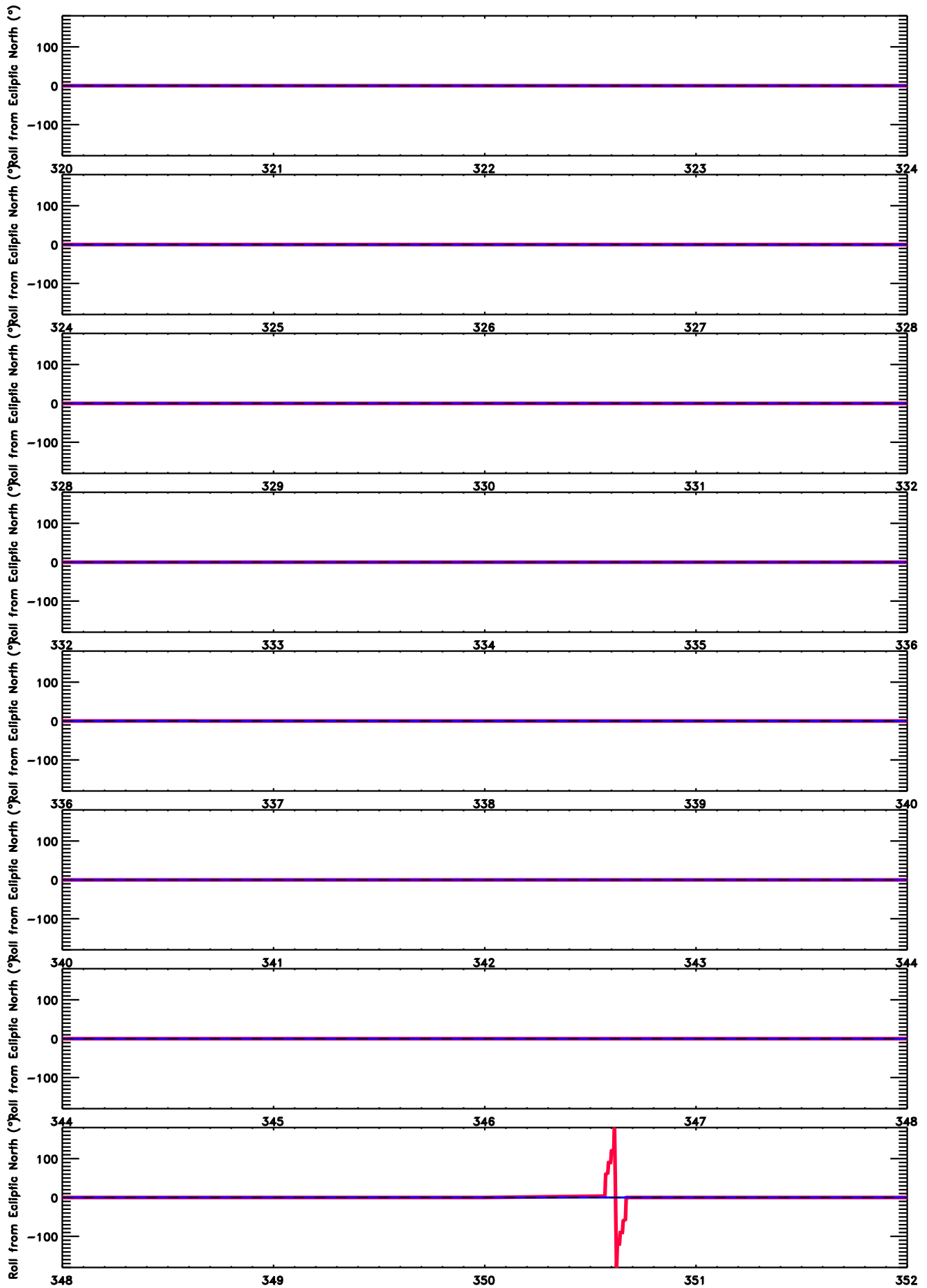
Day of 2010  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



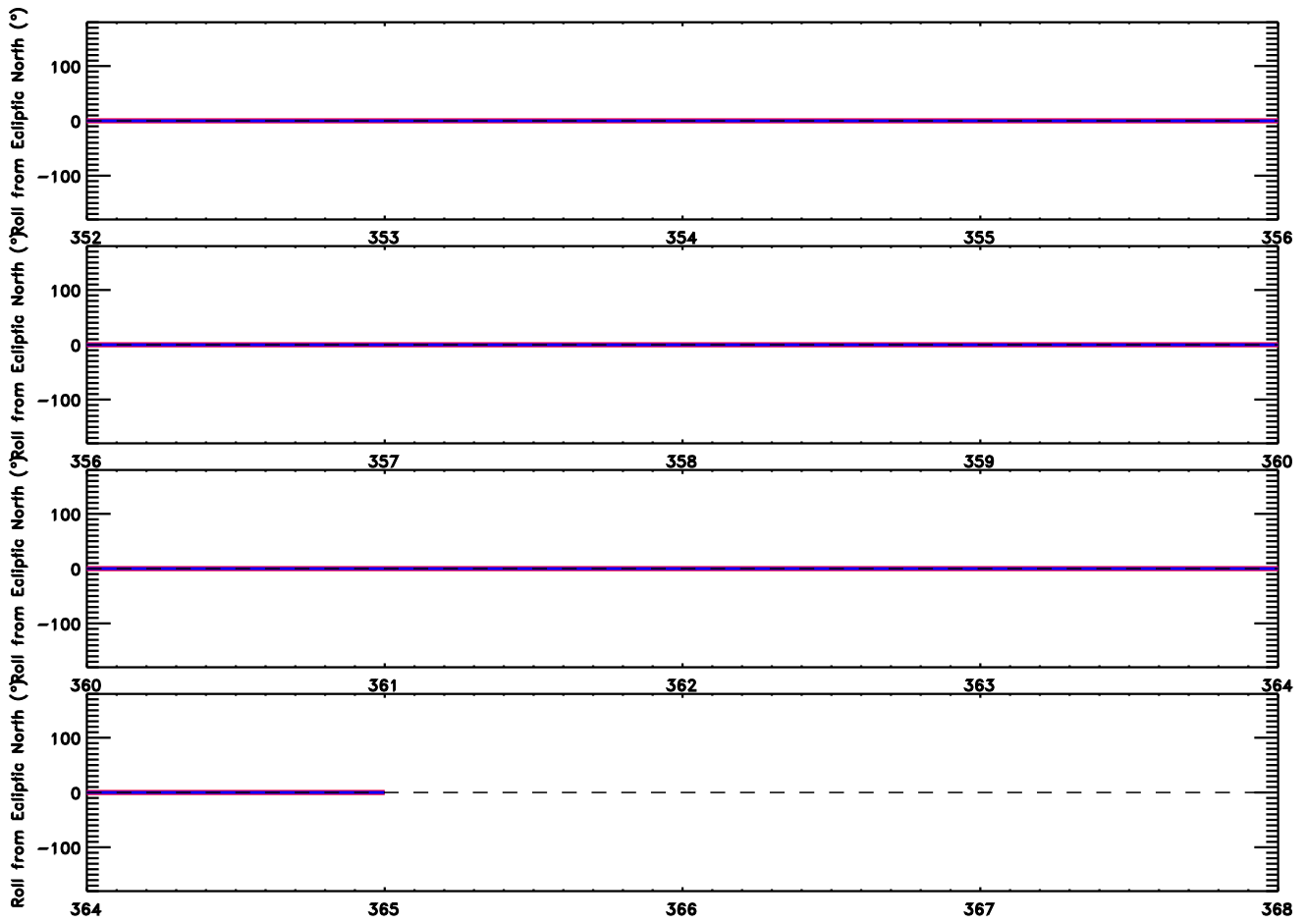
Day of 2010  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



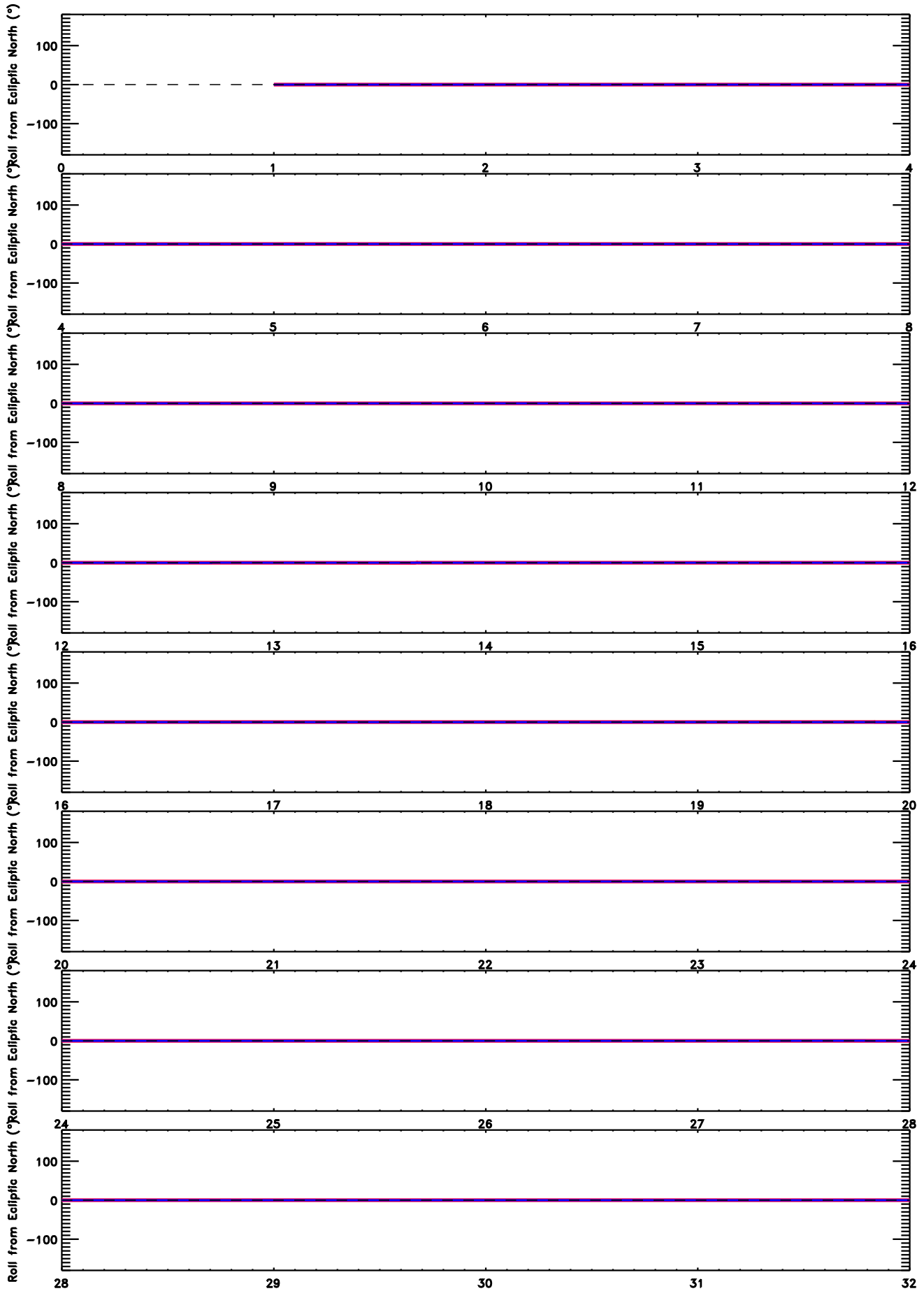
Day of 2010  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2010  
Red = Ahead; Blue = Behind

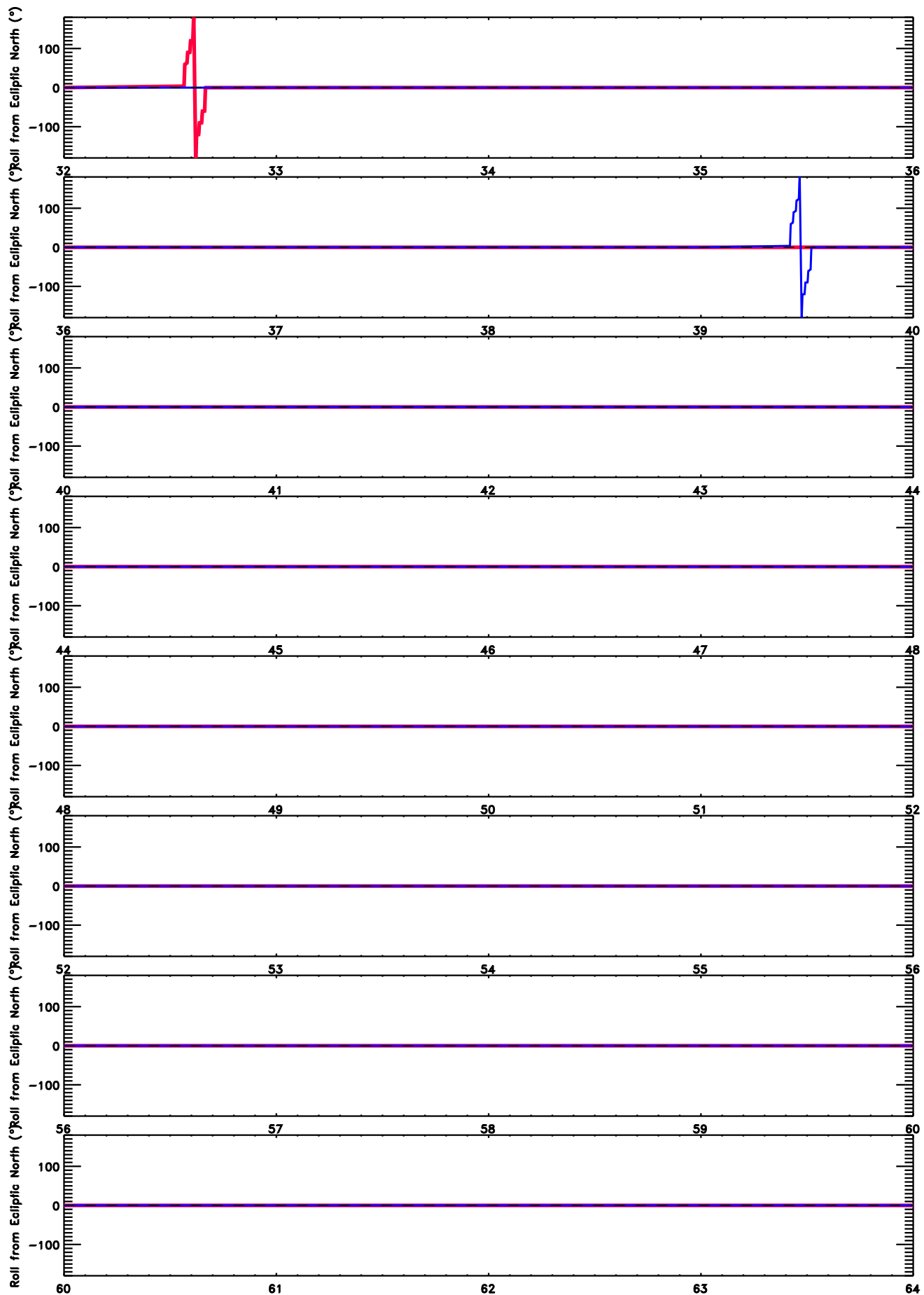
# Roll Angle from Ecliptic North (°)



Day of 2011

Red = Ahead; Blue = Behind

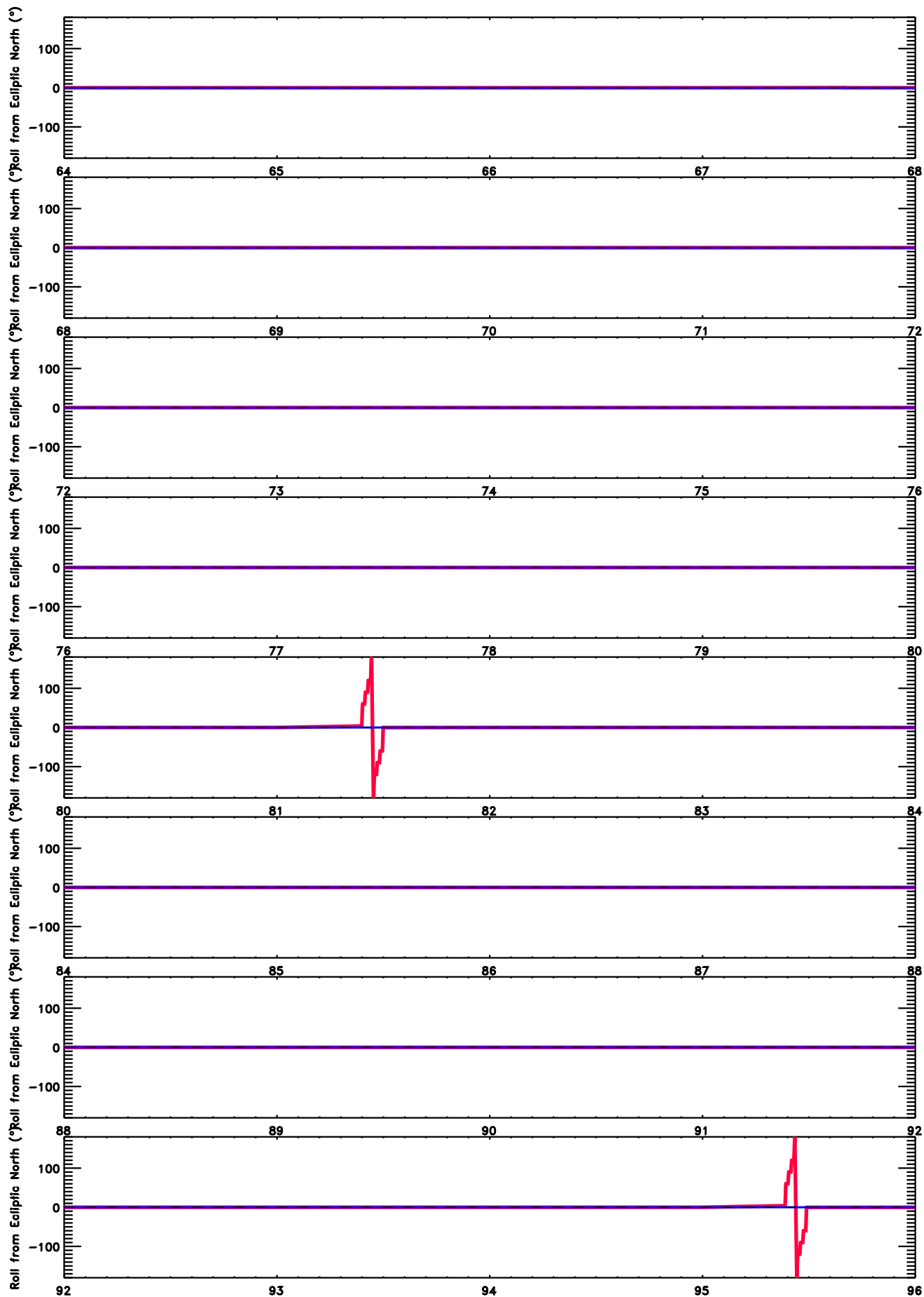
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2011  
Red = Ahead; Blue = Behind



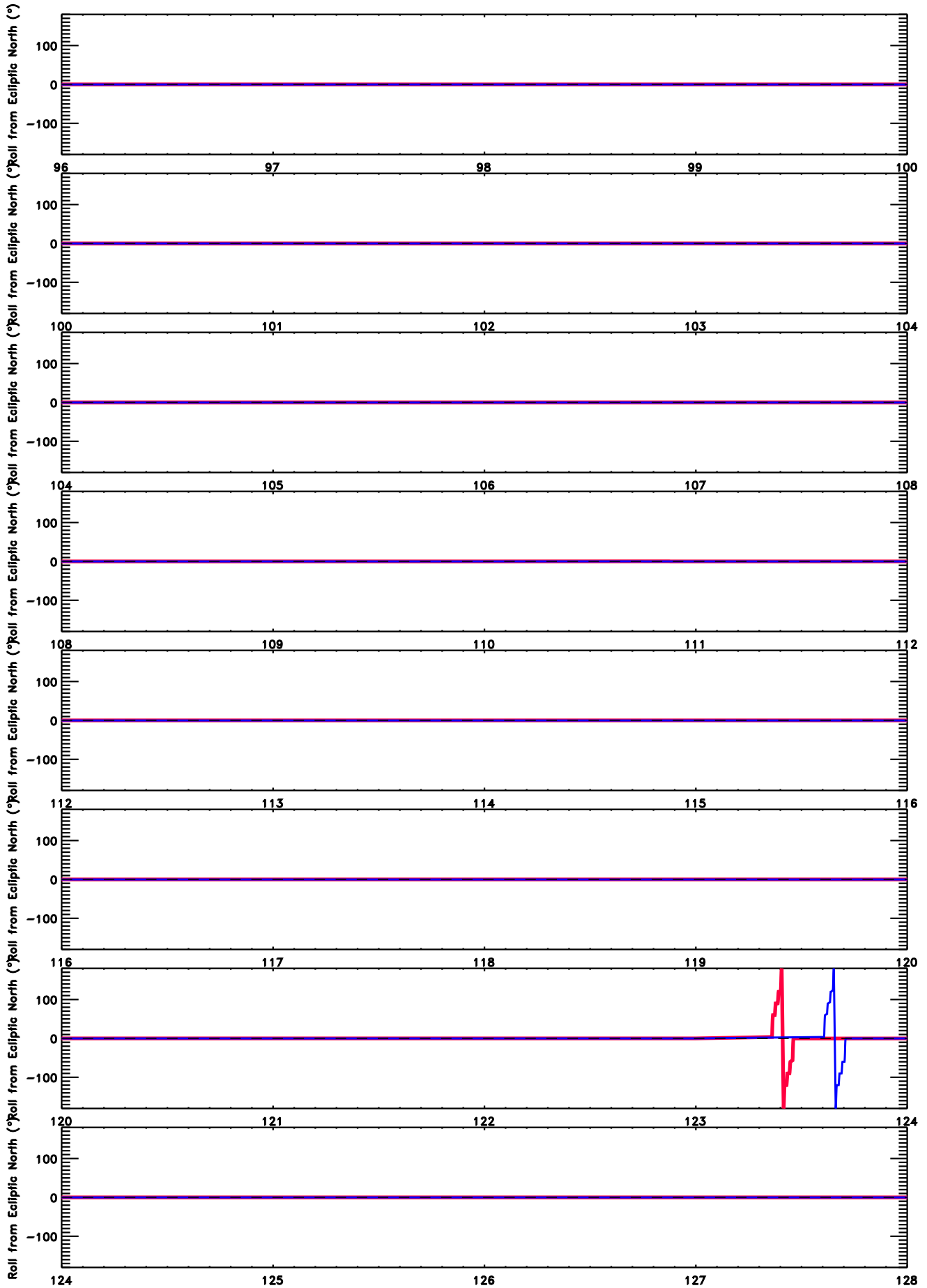
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2011

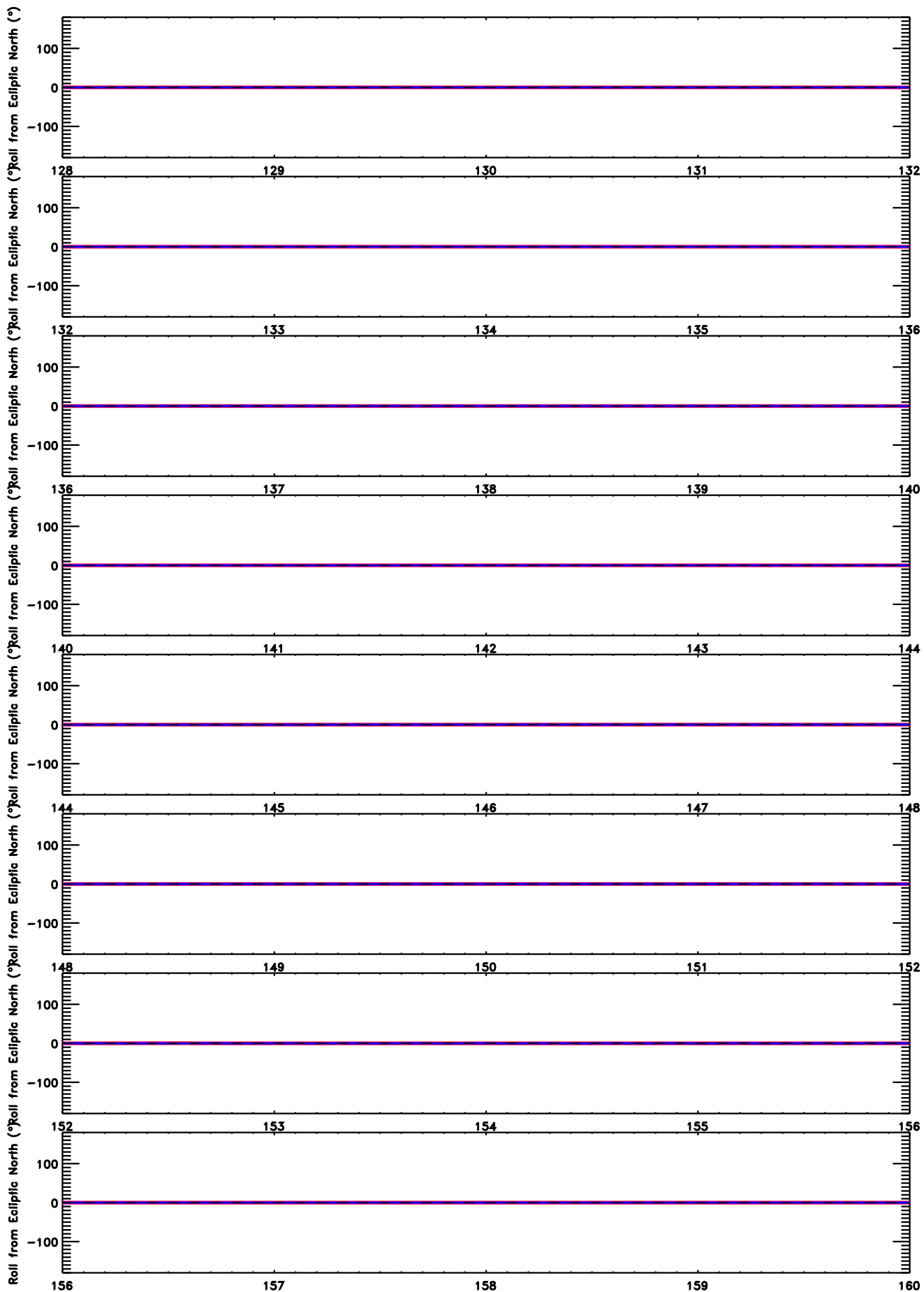
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



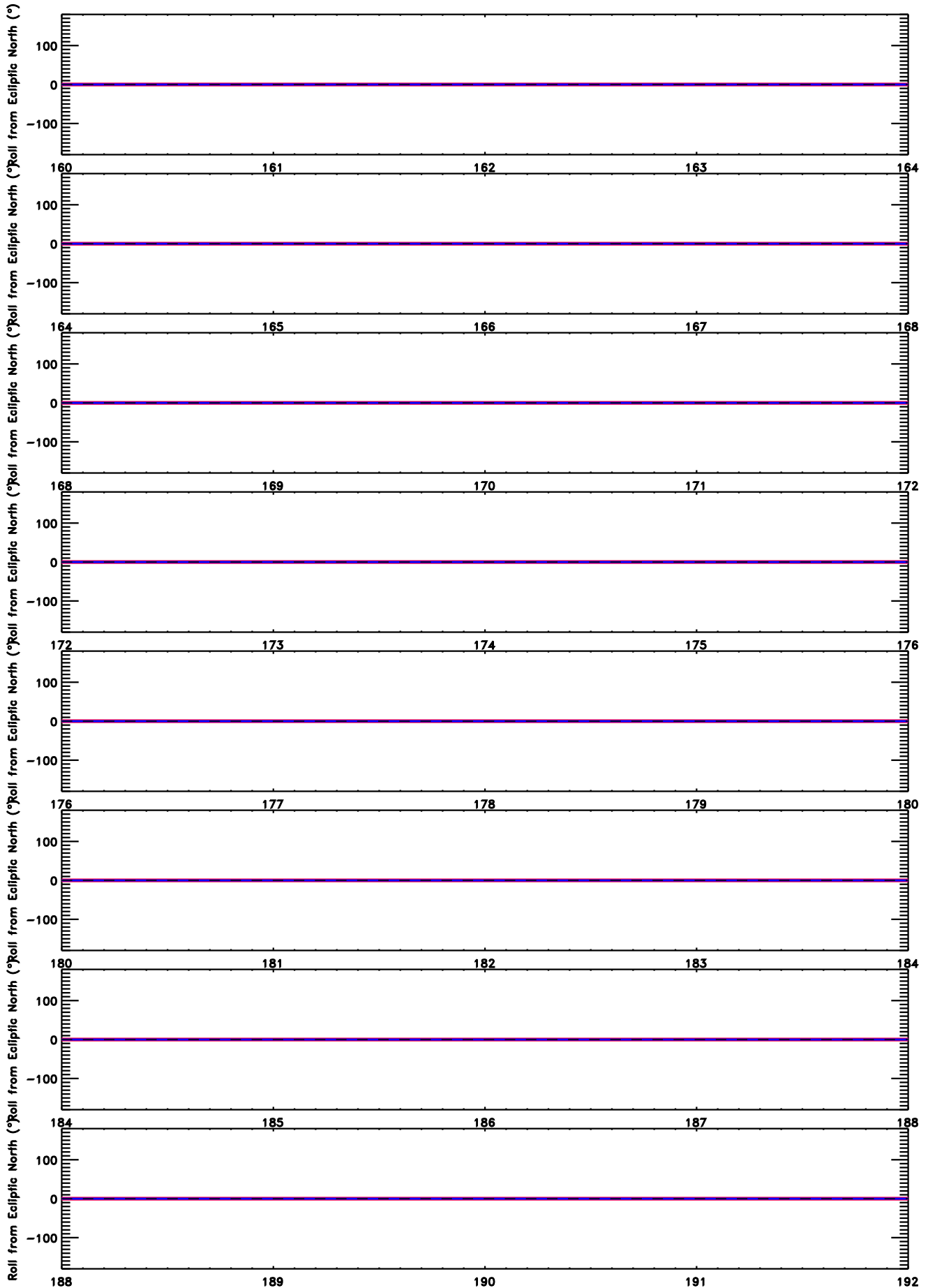
Day of 2011  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



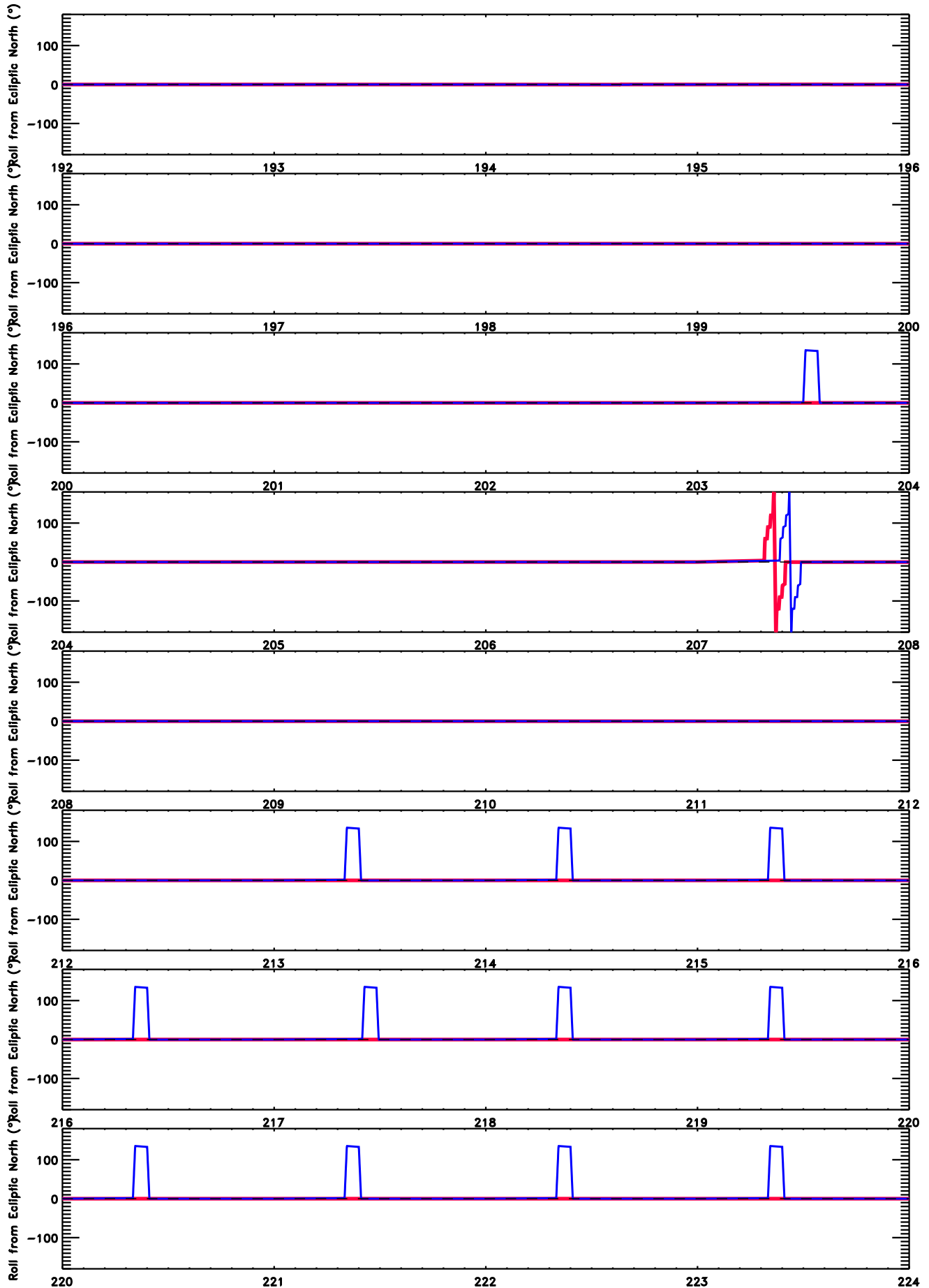
Day of 2011  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



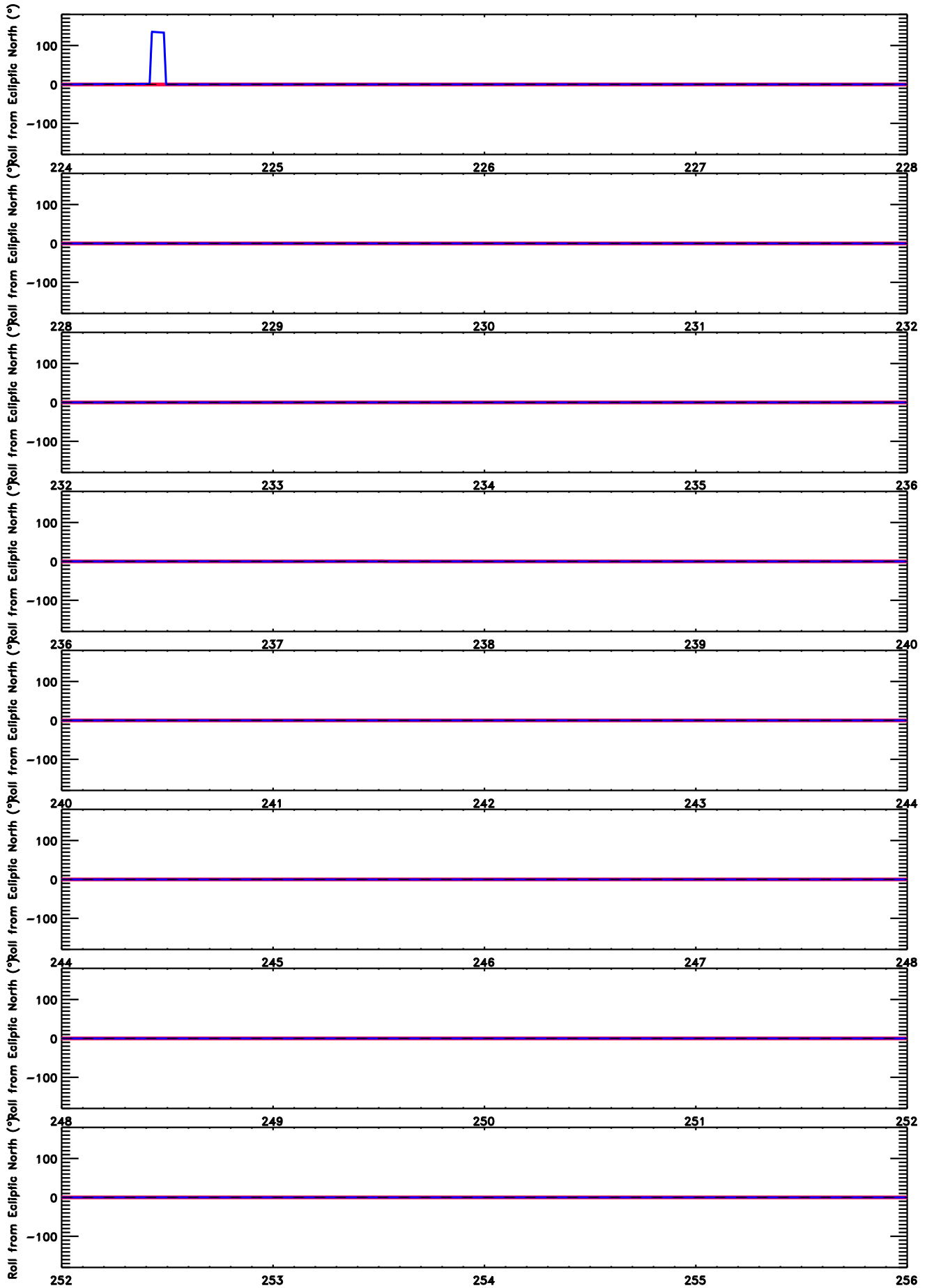
Day of 2011  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



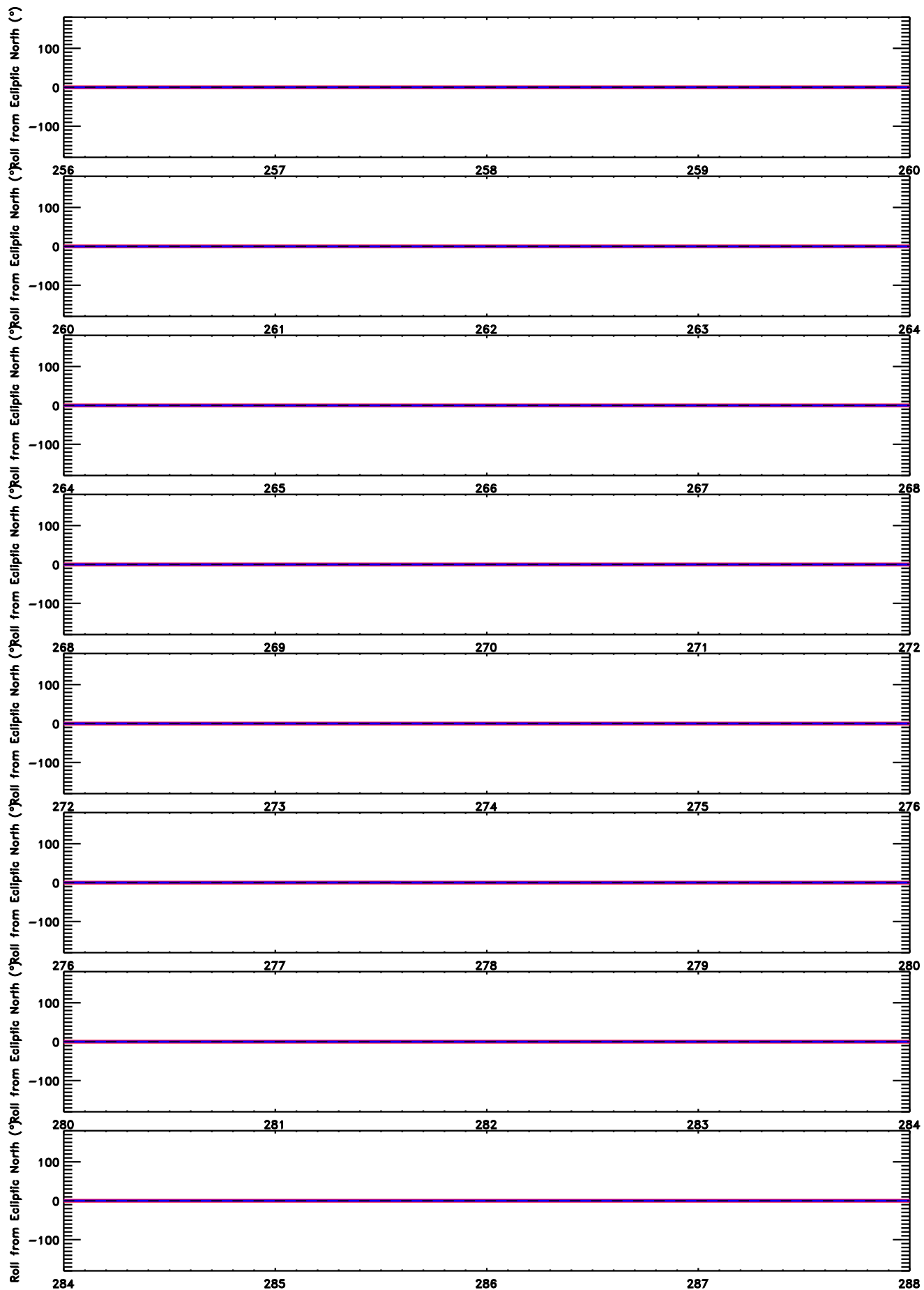
Day of 2011  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



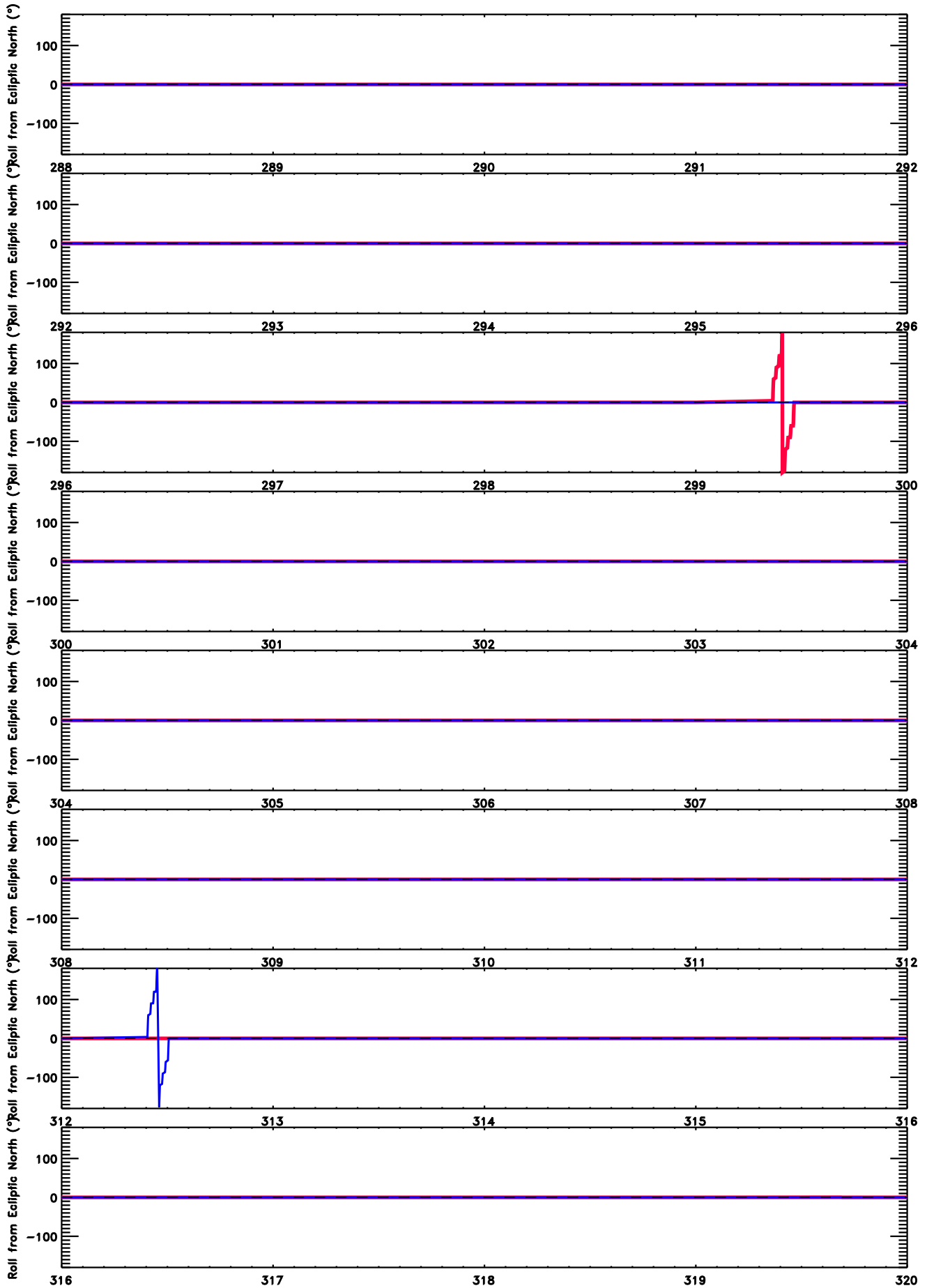
Day of 2011  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2011  
Red = Ahead; Blue = Behind

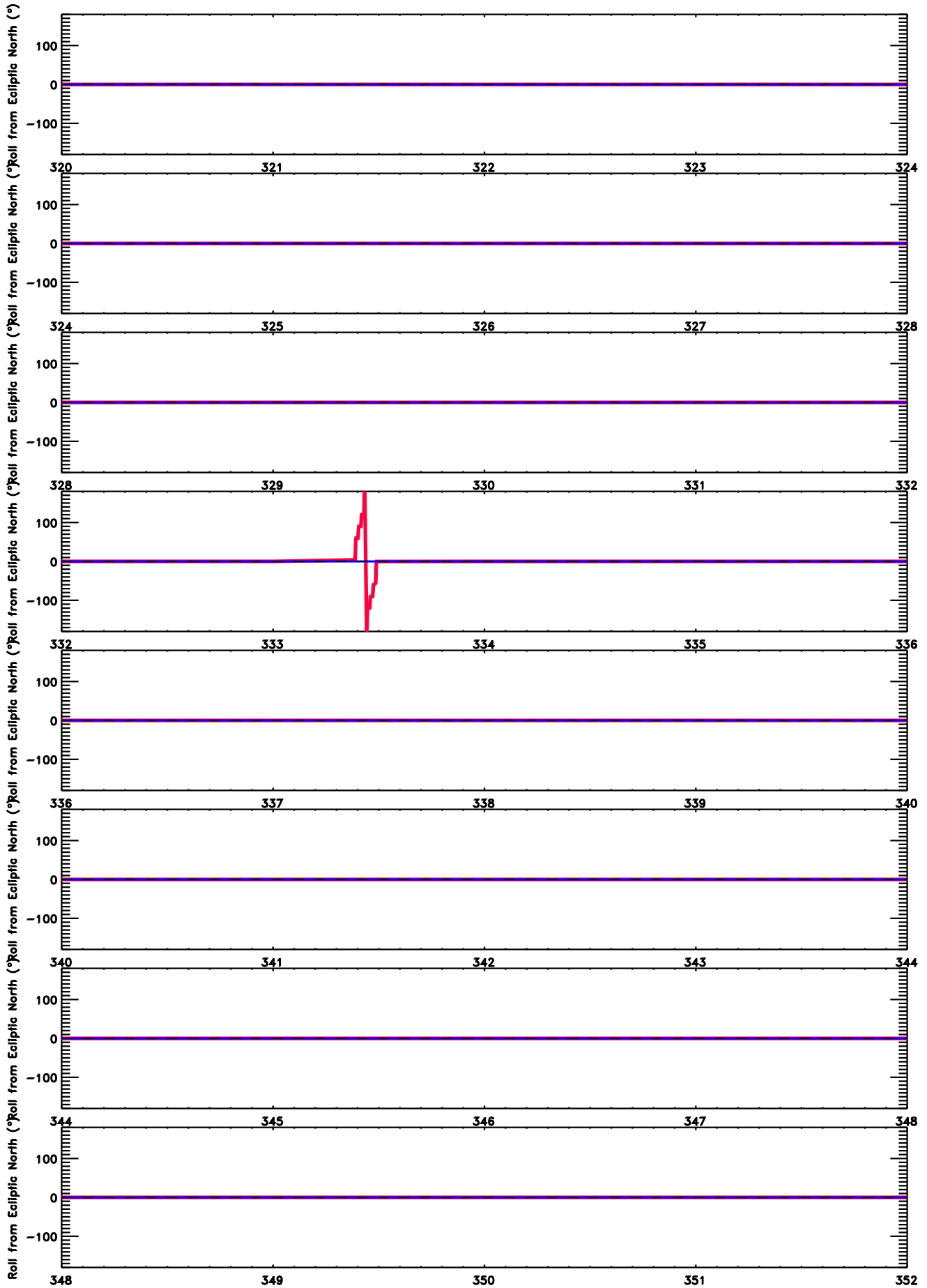
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2011  
Red = Ahead; Blue = Behind

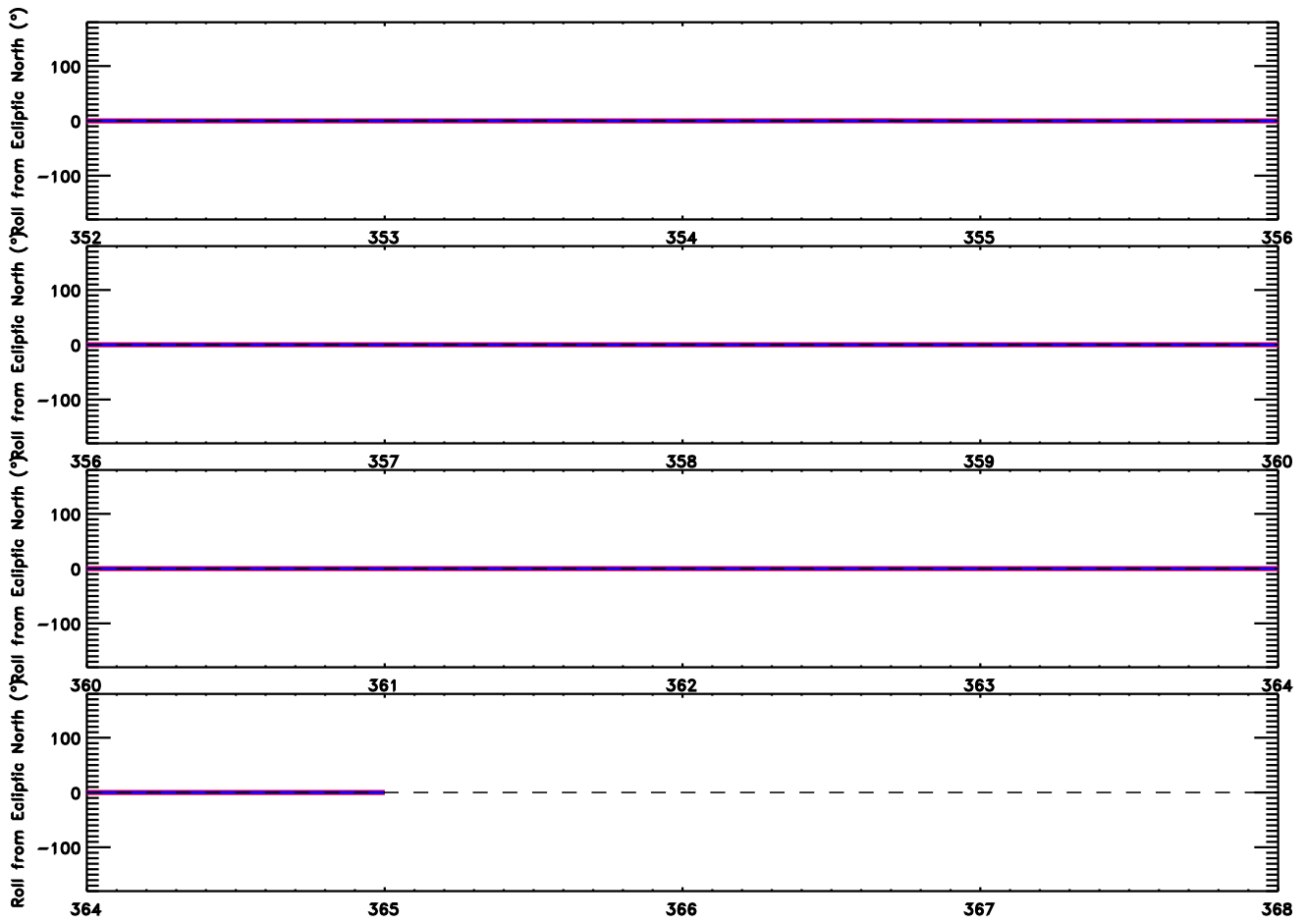


# Roll Angle from Ecliptic North ( $^{\circ}$ )



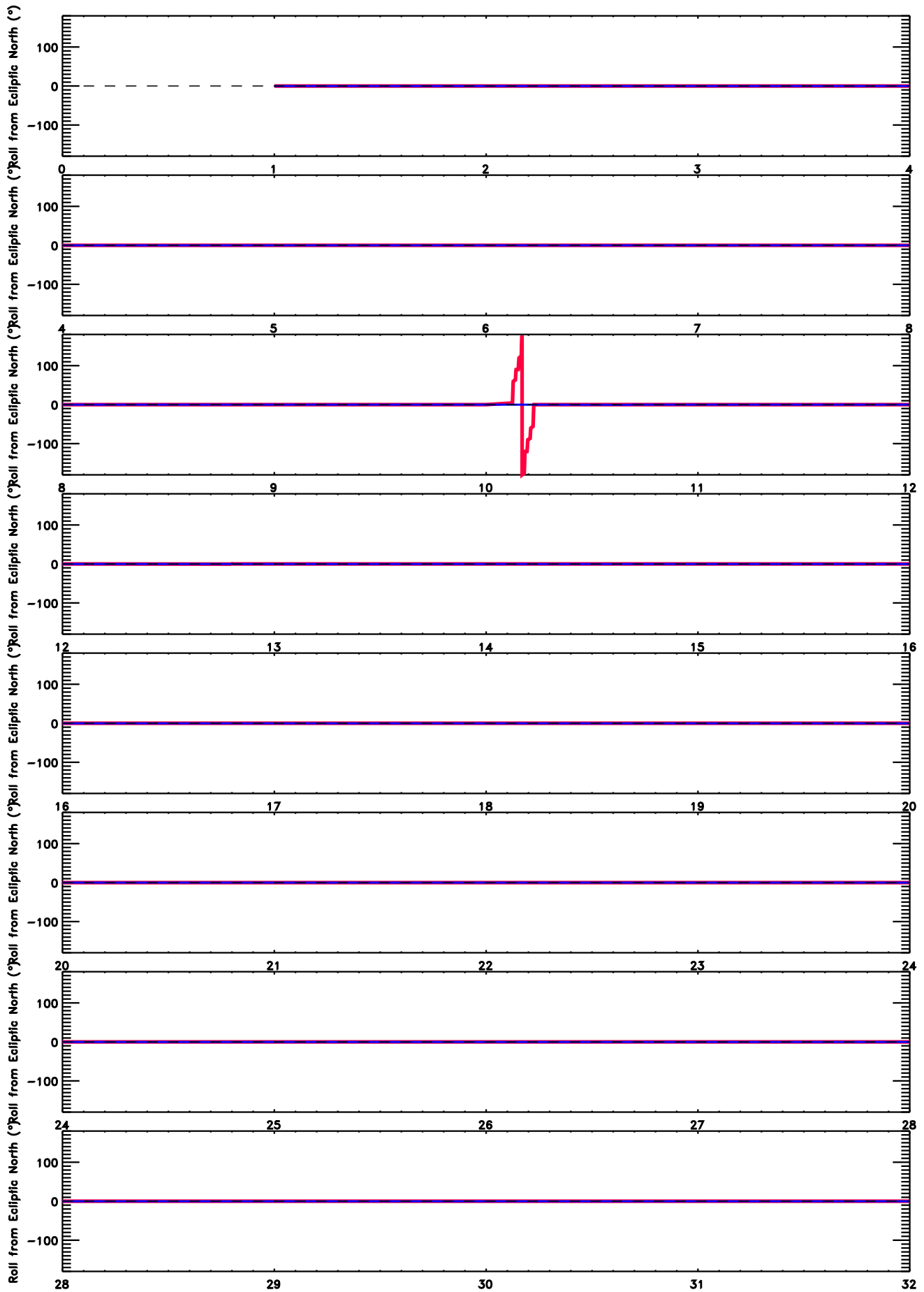
Day of 2011  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



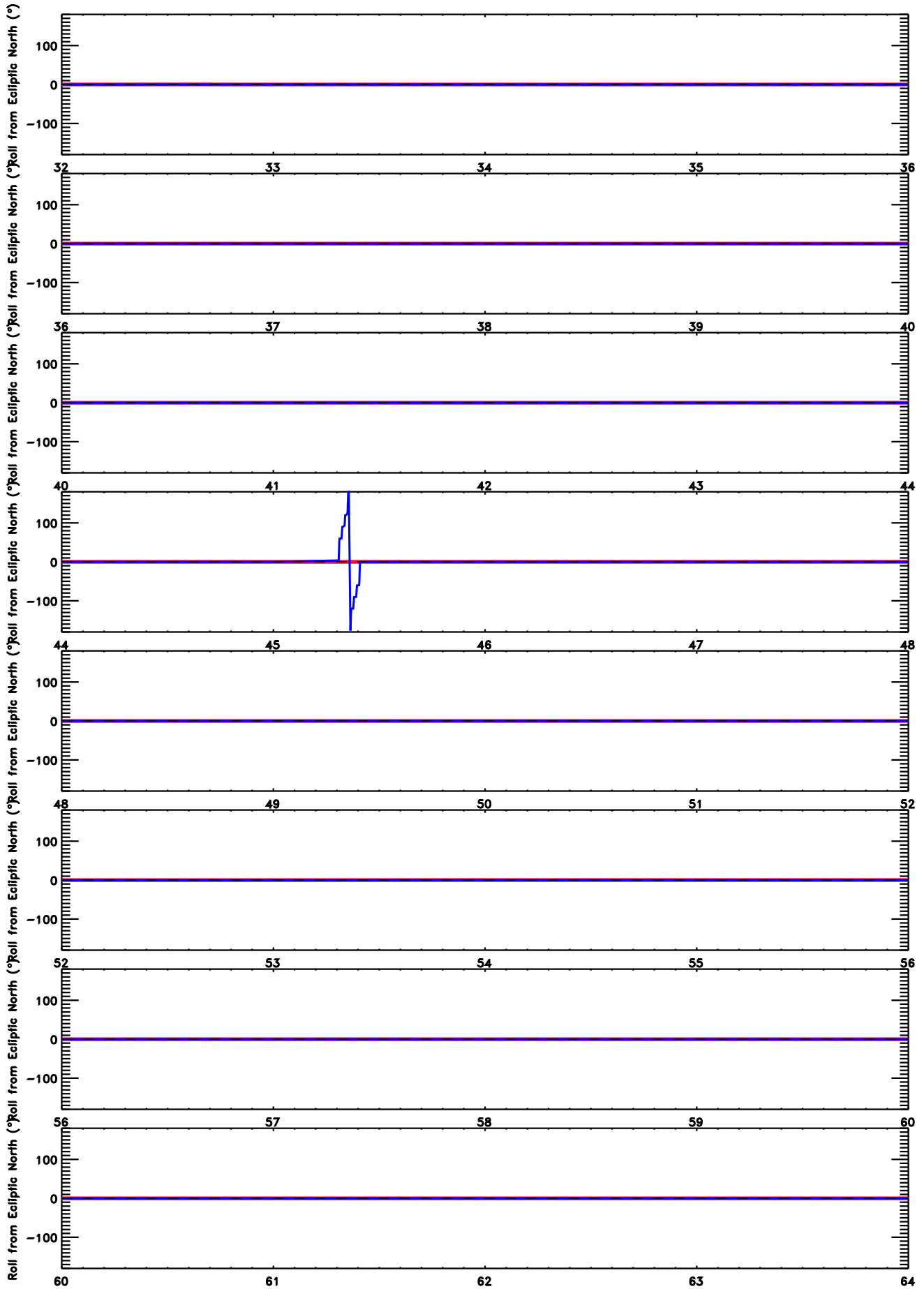
Day of 2011  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



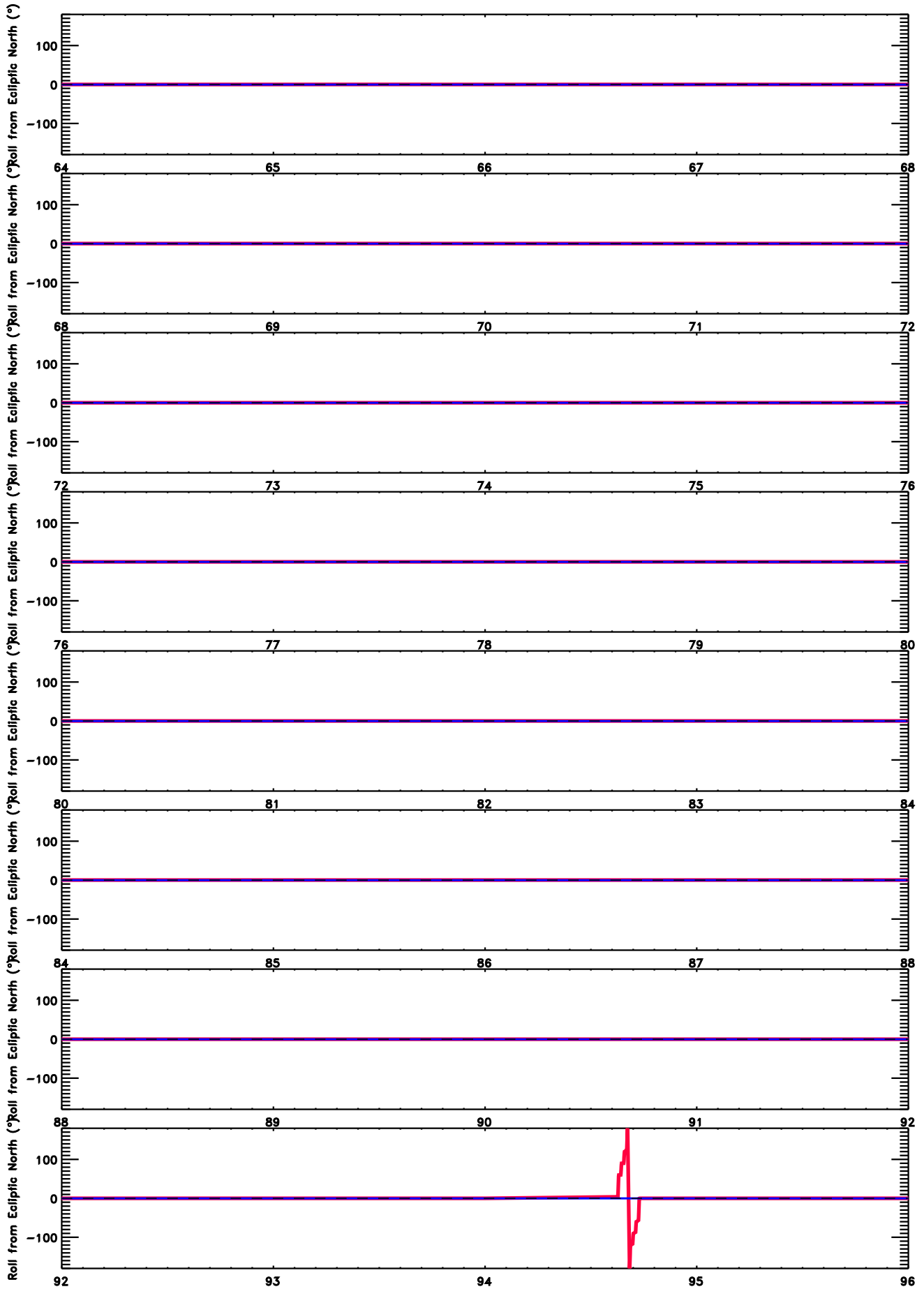
Day of 2012  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



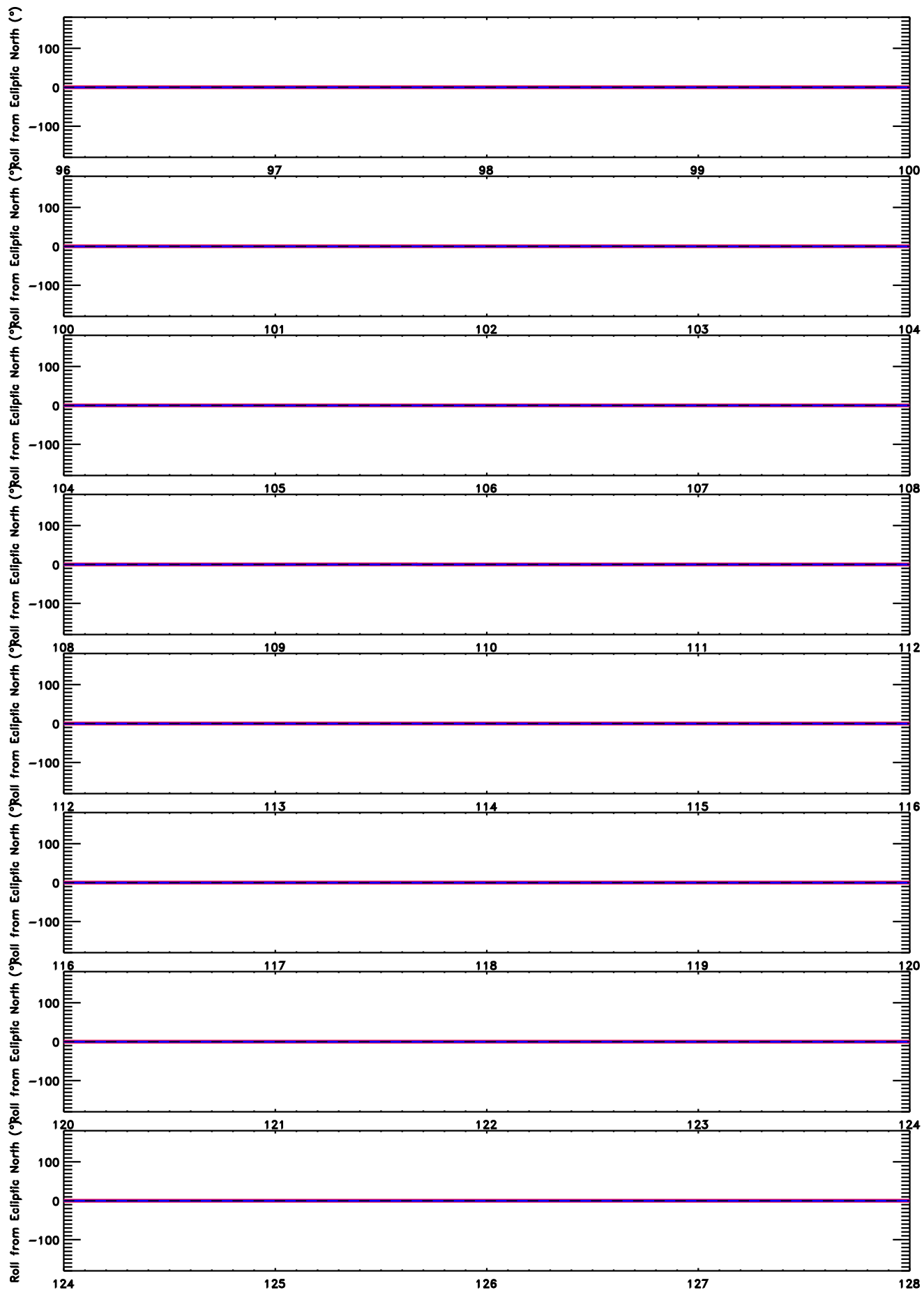
Day of 2012  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



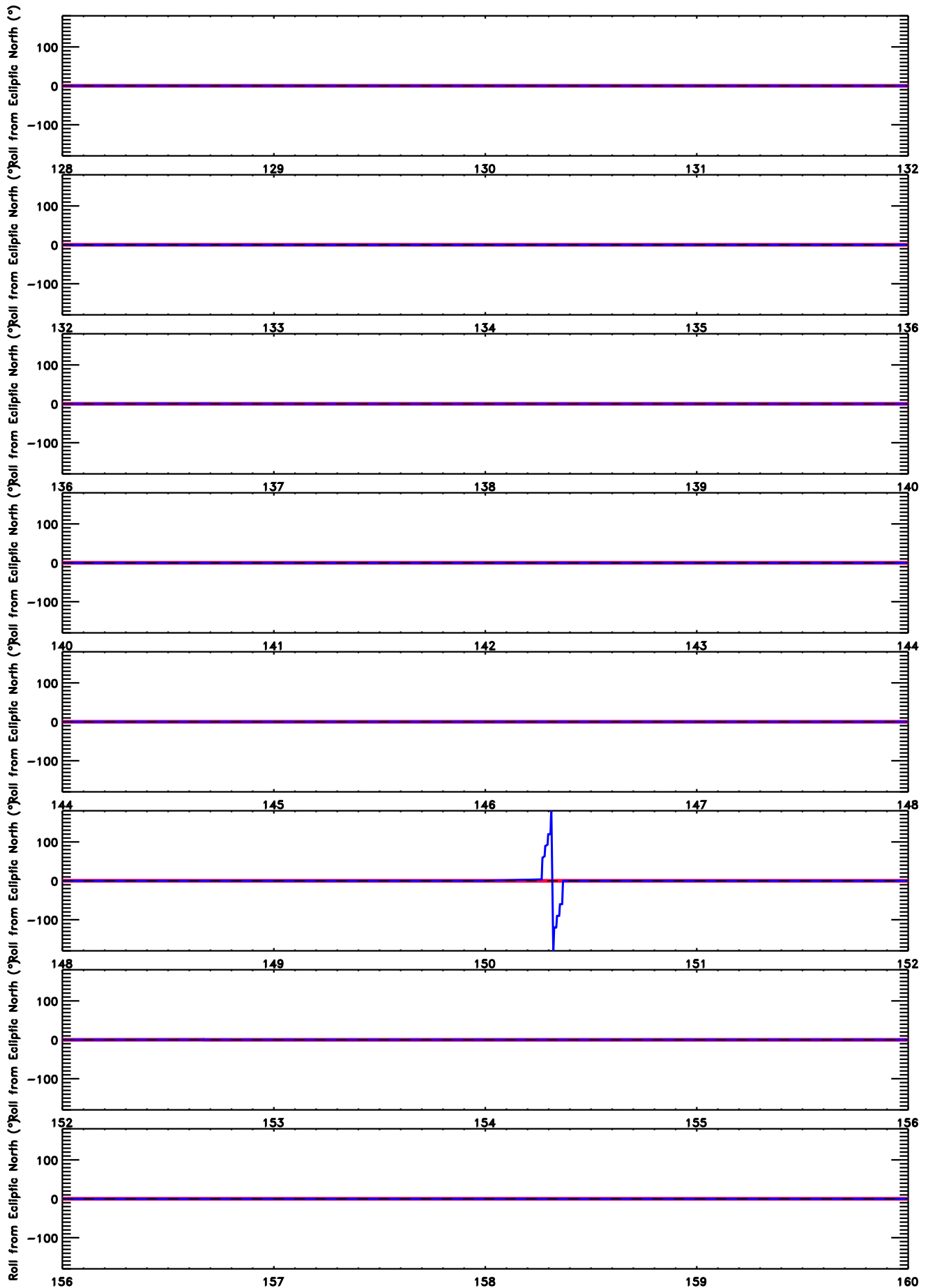
Day of 2012  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



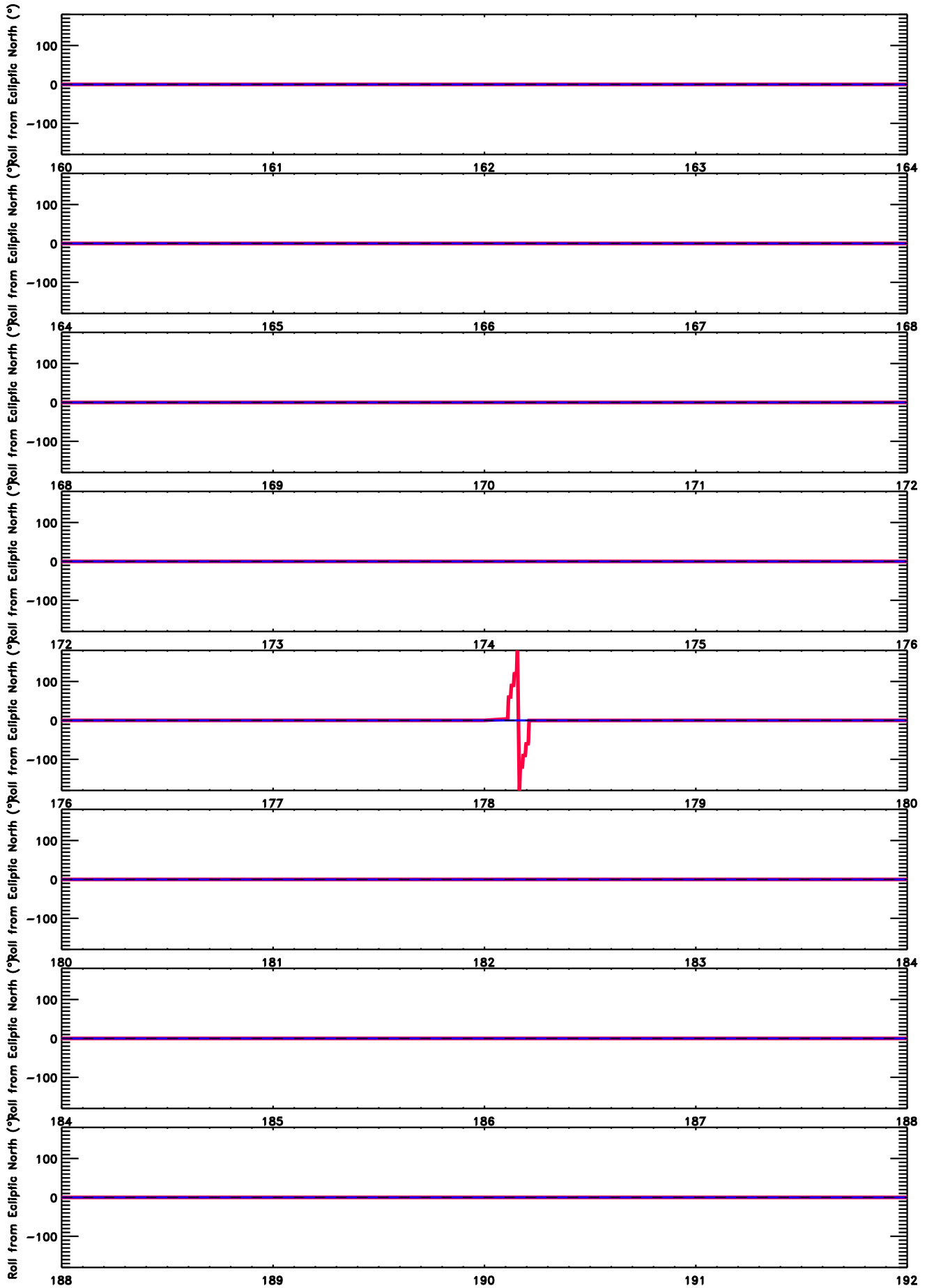
Day of 2012  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2012  
Red = Ahead; Blue = Behind

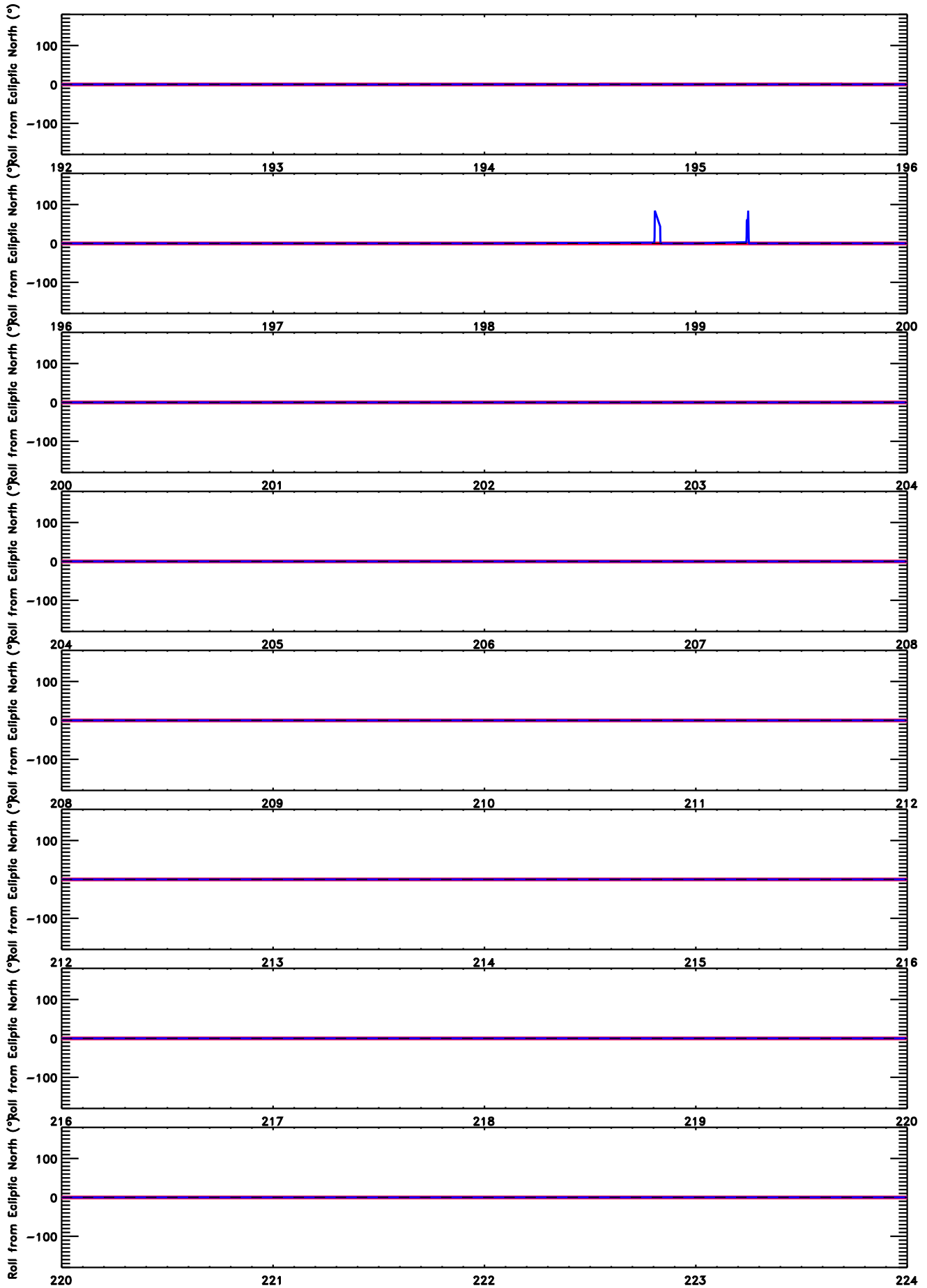
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2012  
Red = Ahead; Blue = Behind

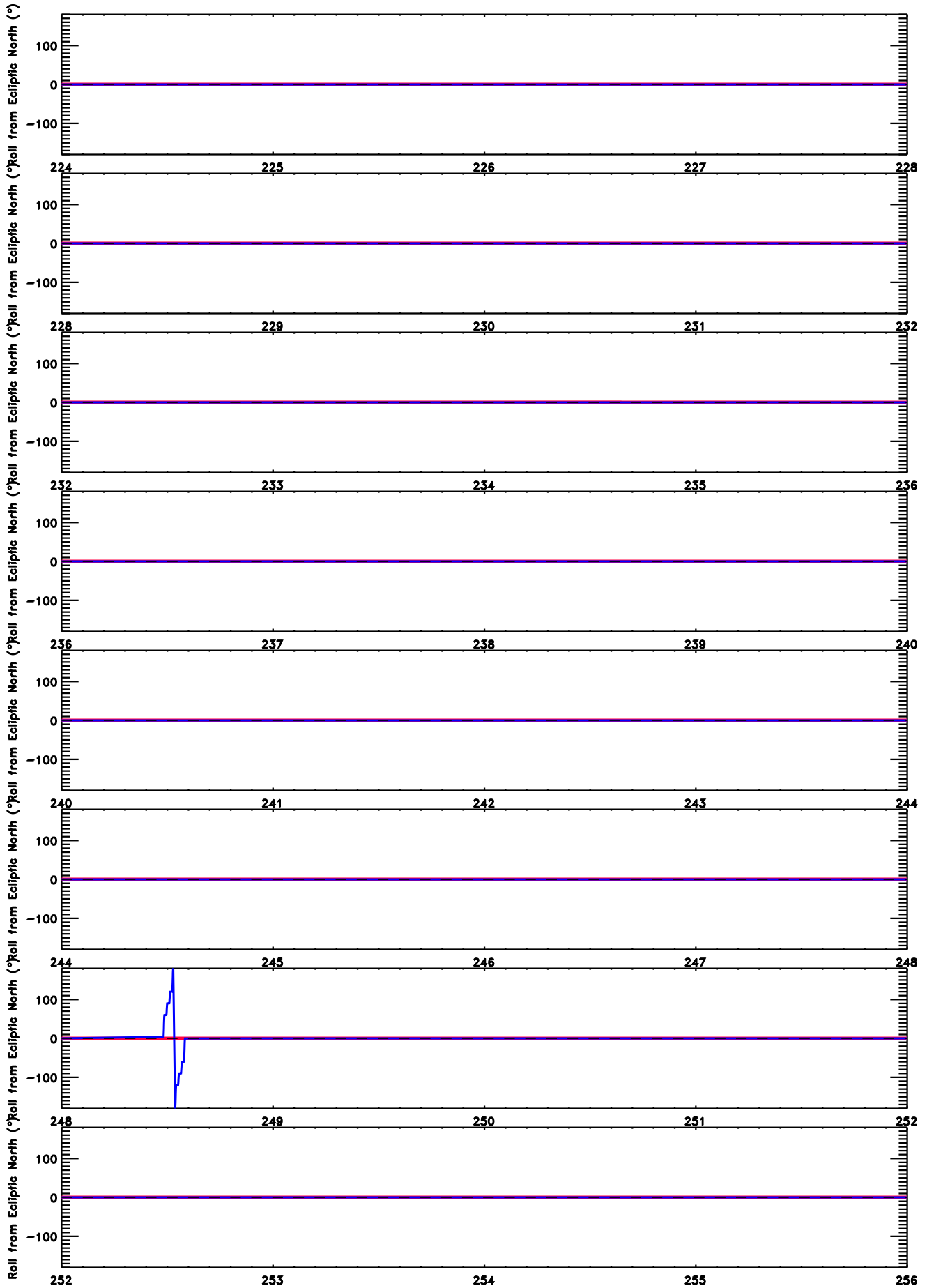


# Roll Angle from Ecliptic North ( $^{\circ}$ )



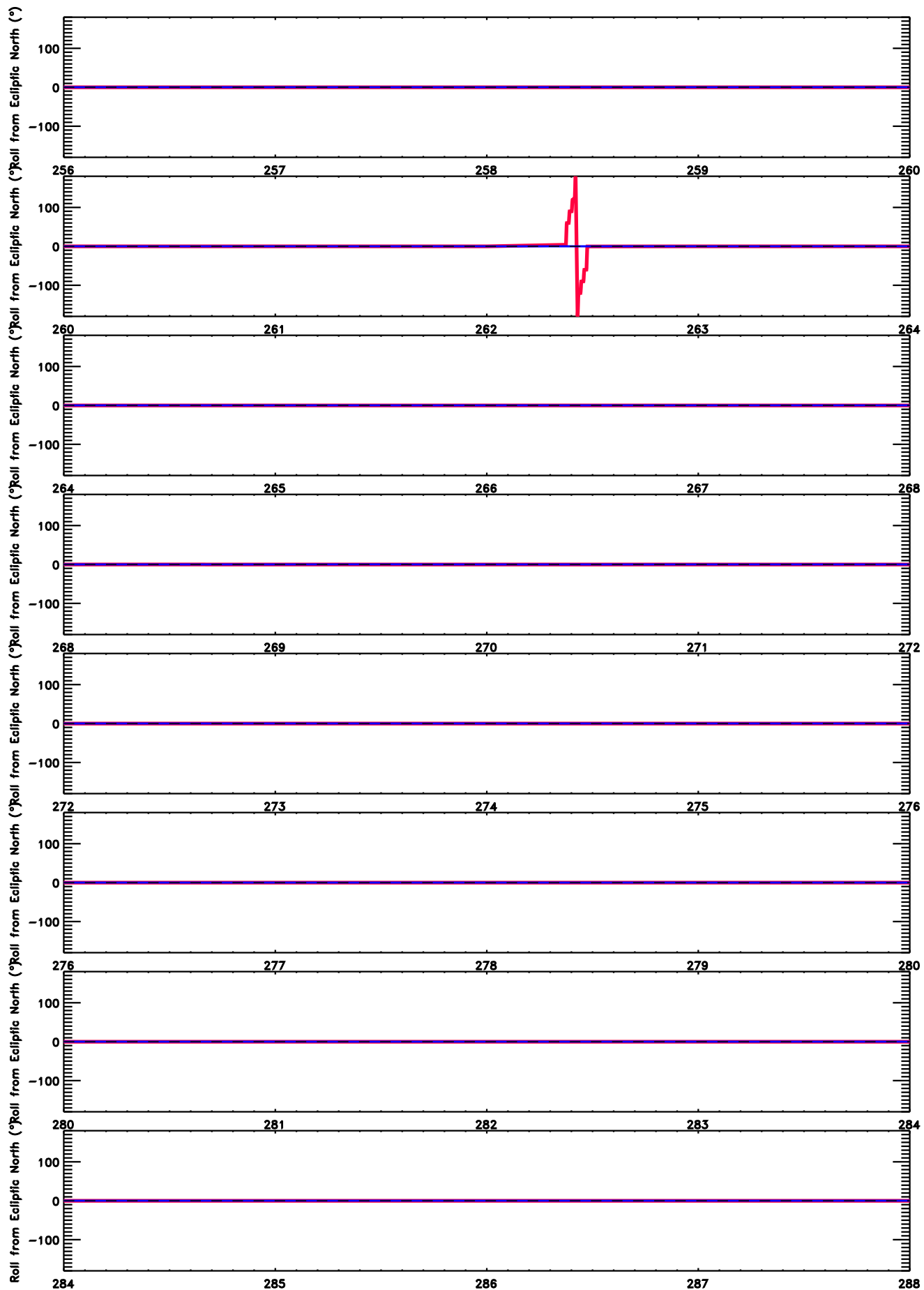
Day of 2012  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



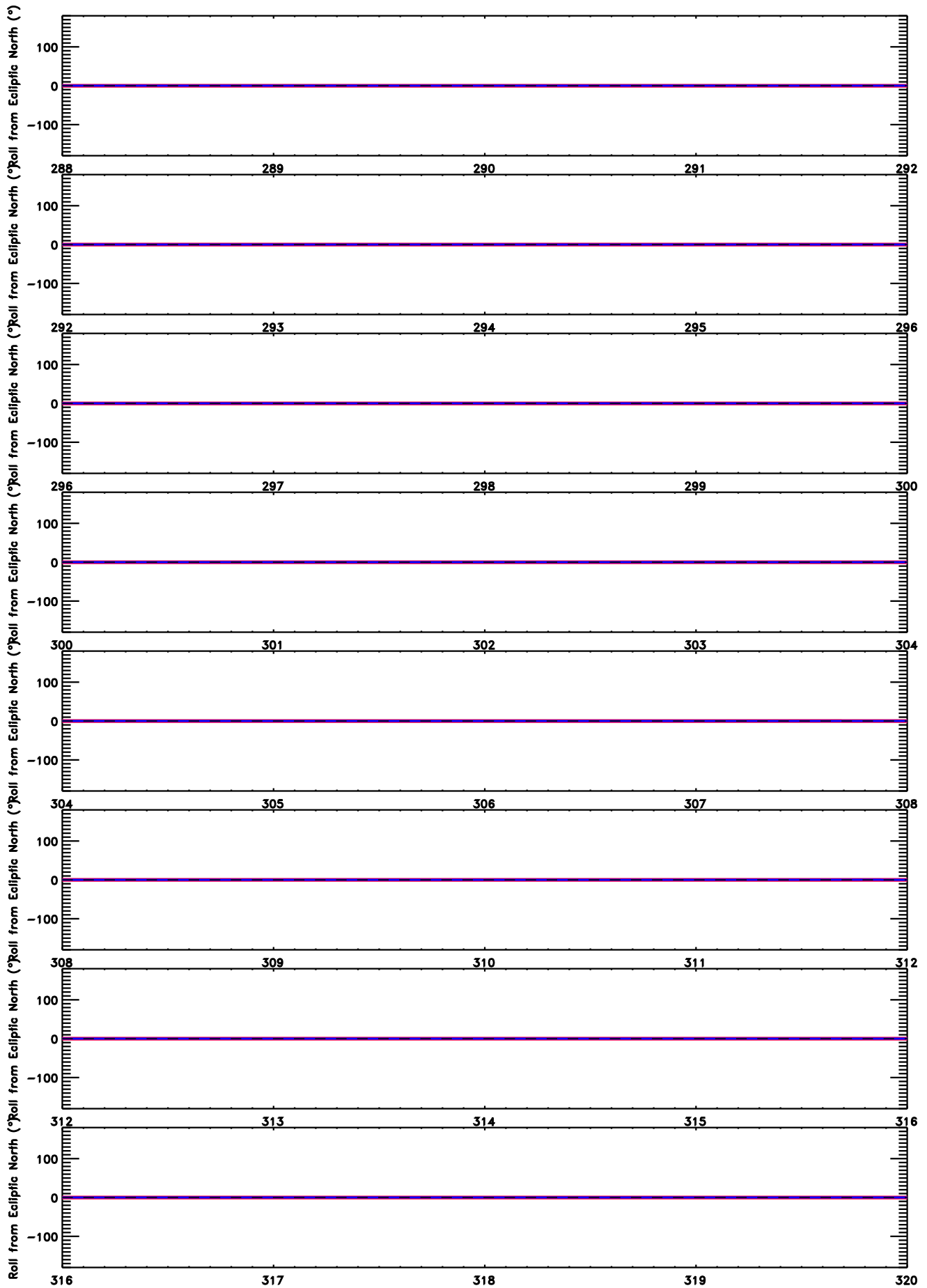
Day of 2012  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



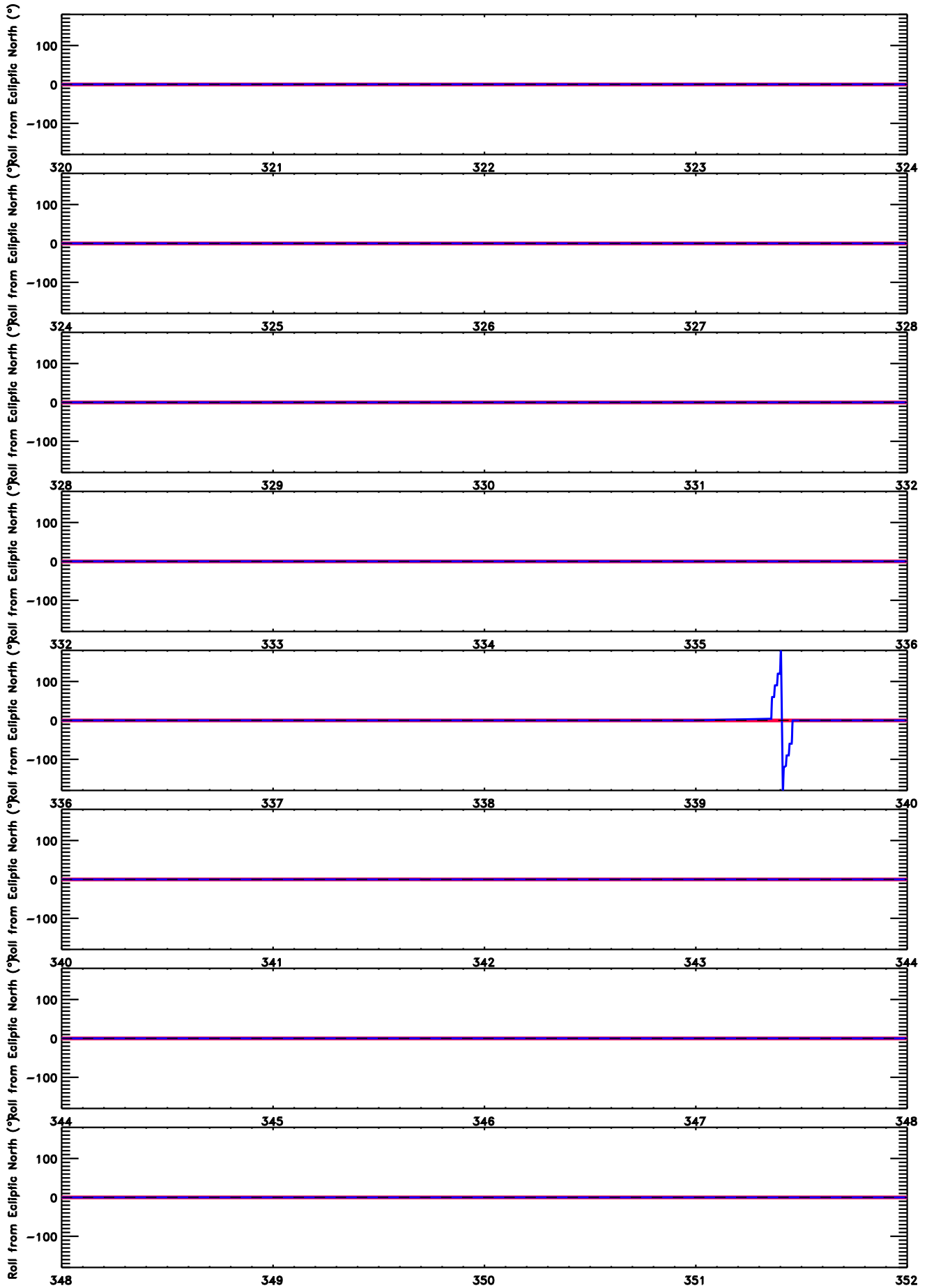
Day of 2012  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



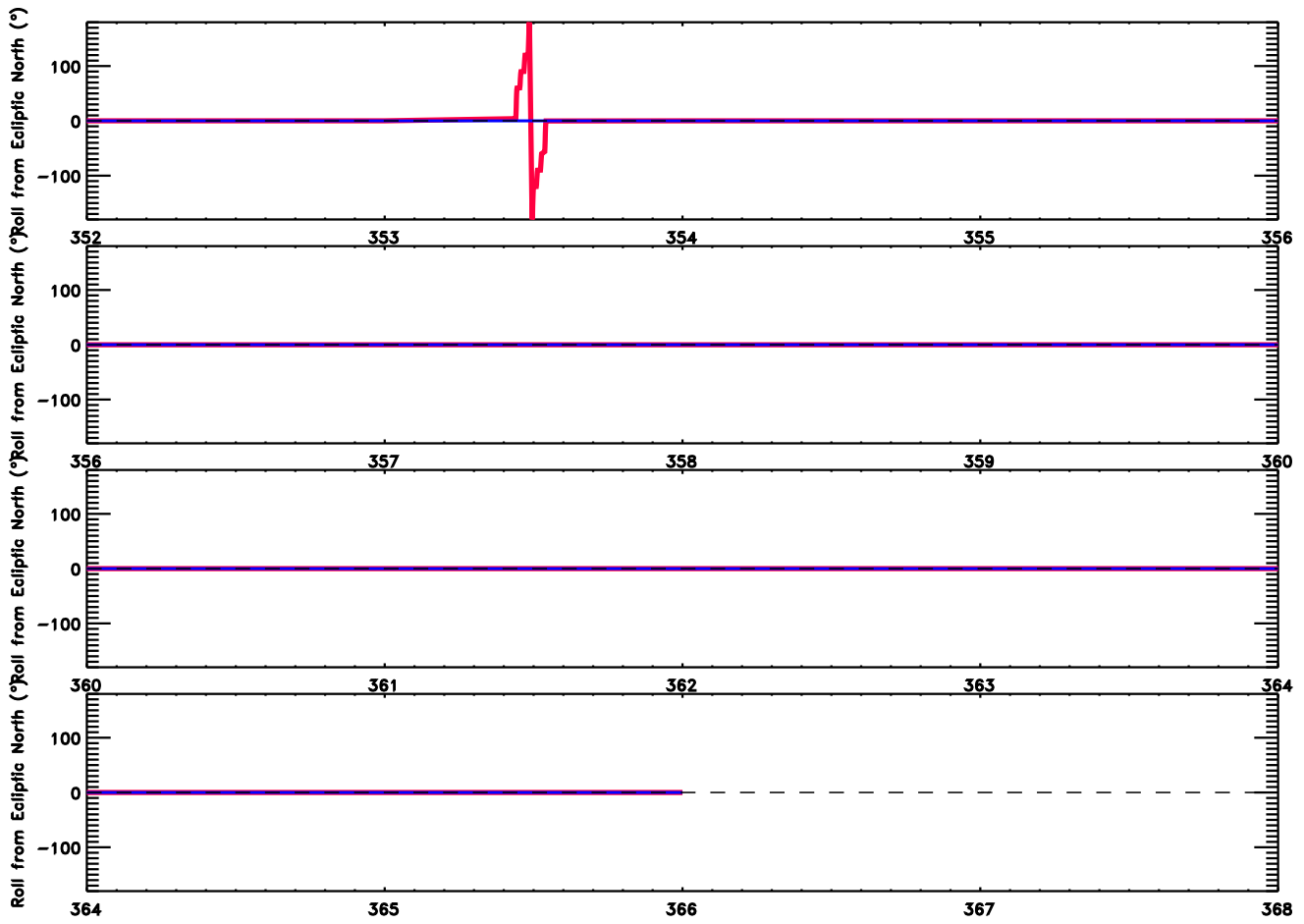
Day of 2012  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



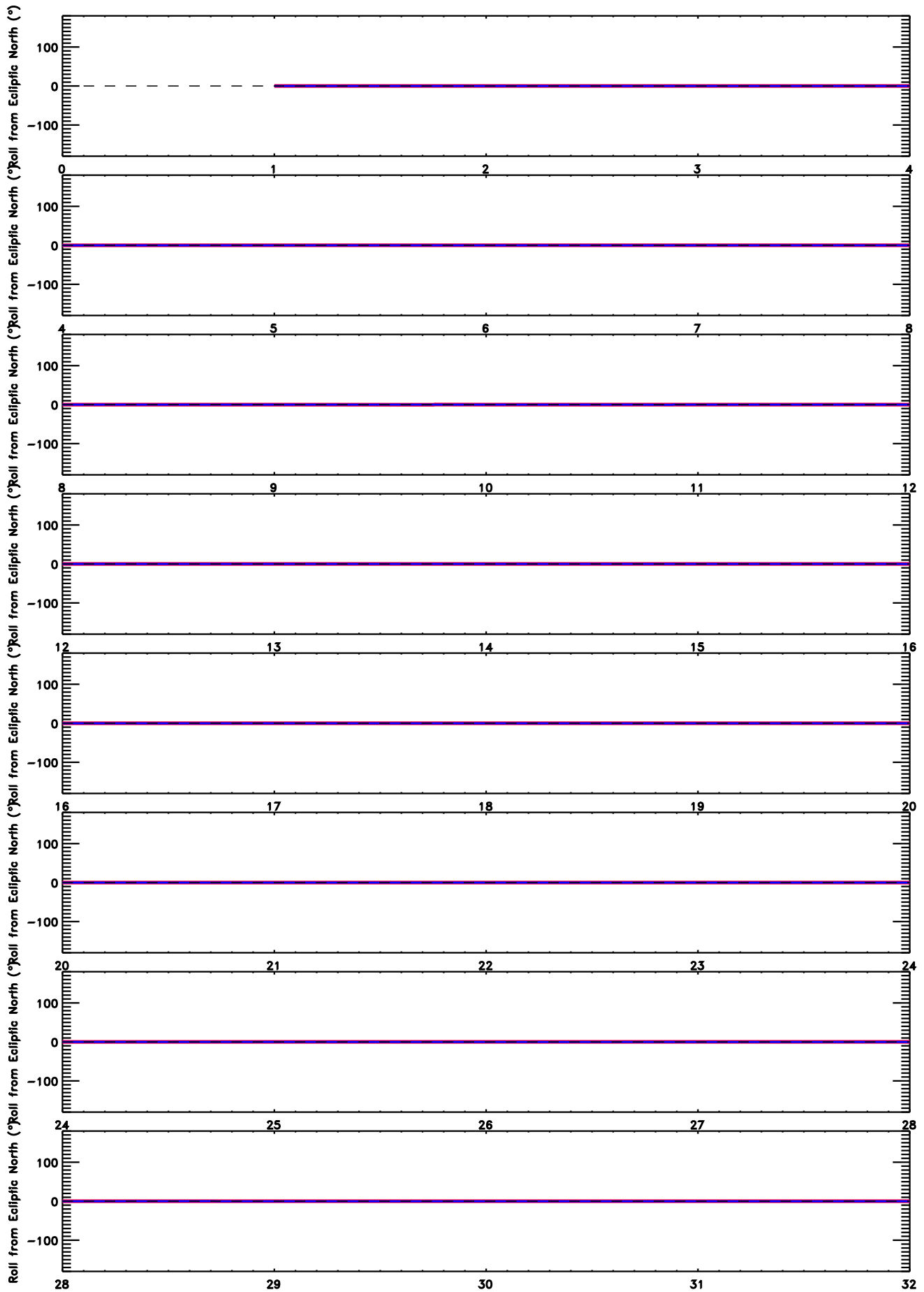
Day of 2012  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



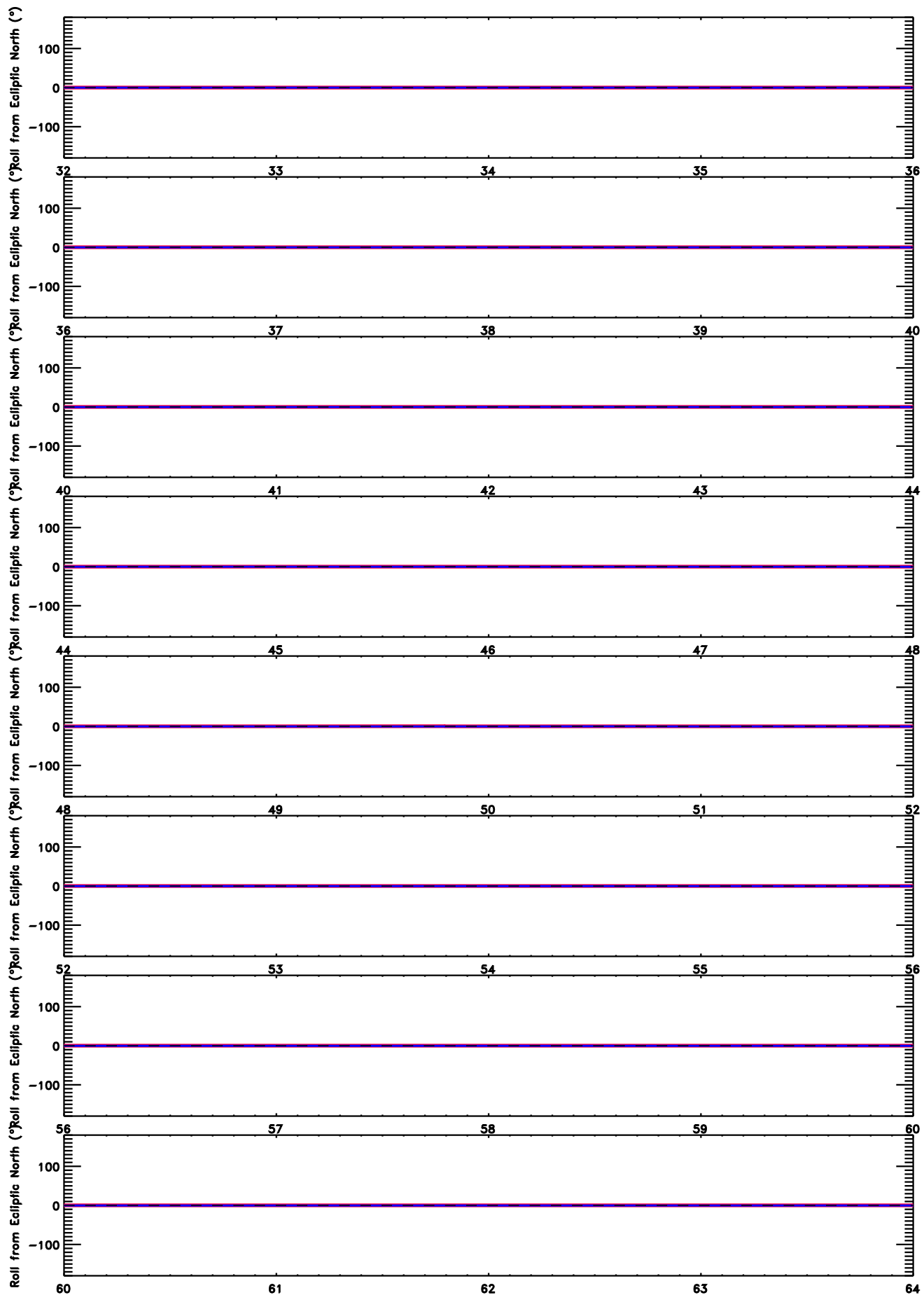
Day of 2012  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2013  
Red = Ahead; Blue = Behind

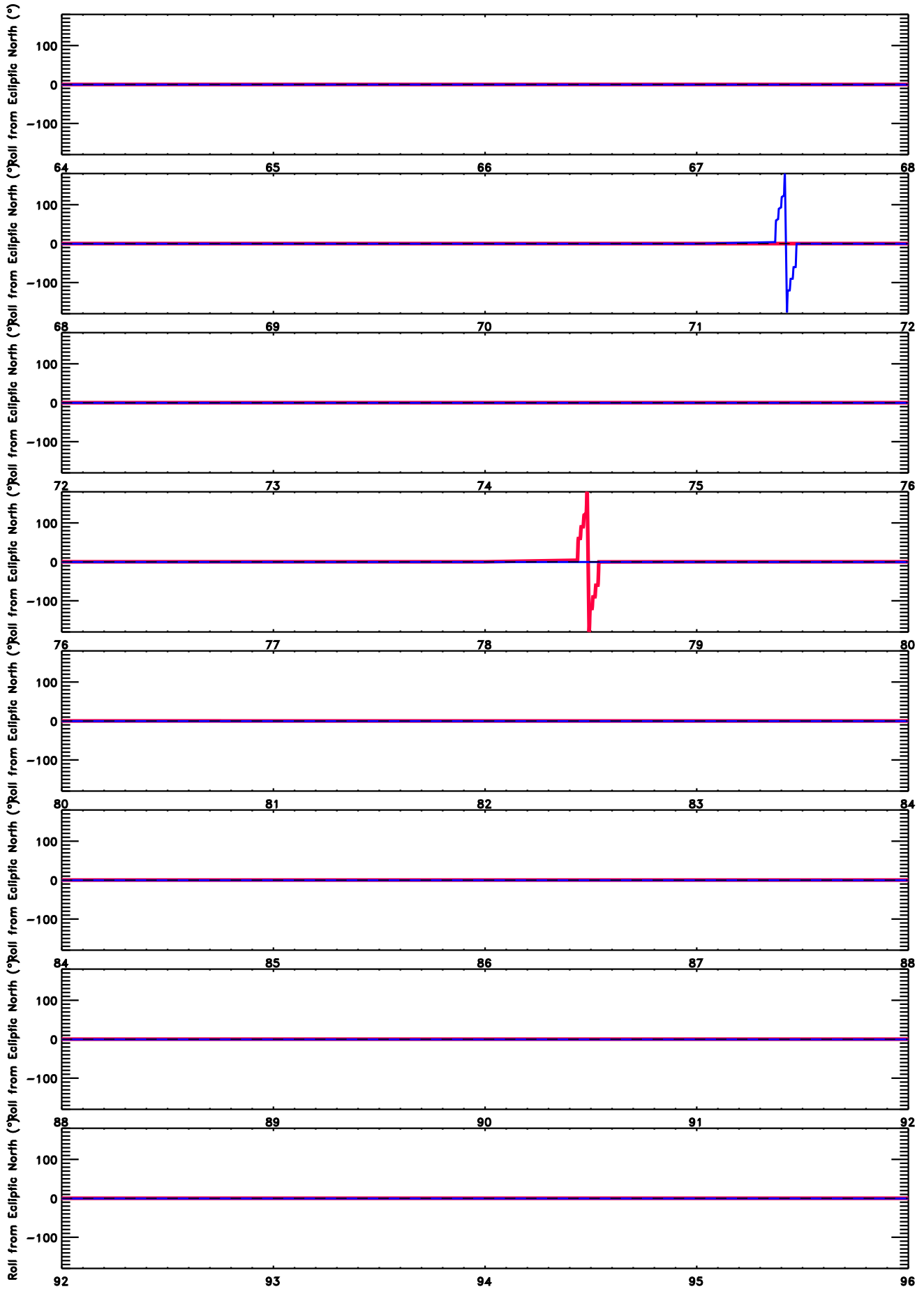
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2013  
Red = Ahead; Blue = Behind

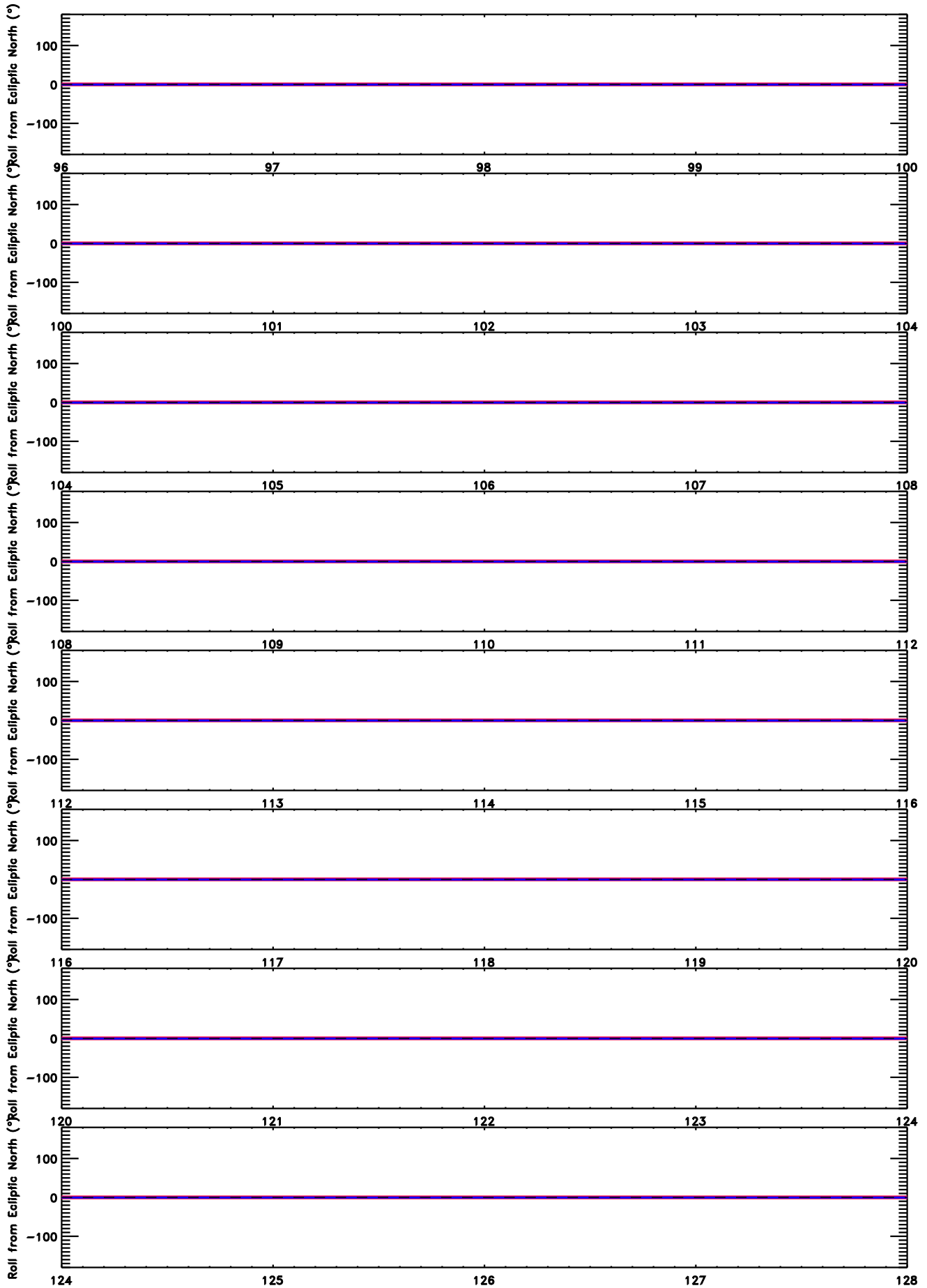


# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2013  
Red = Ahead; Blue = Behind

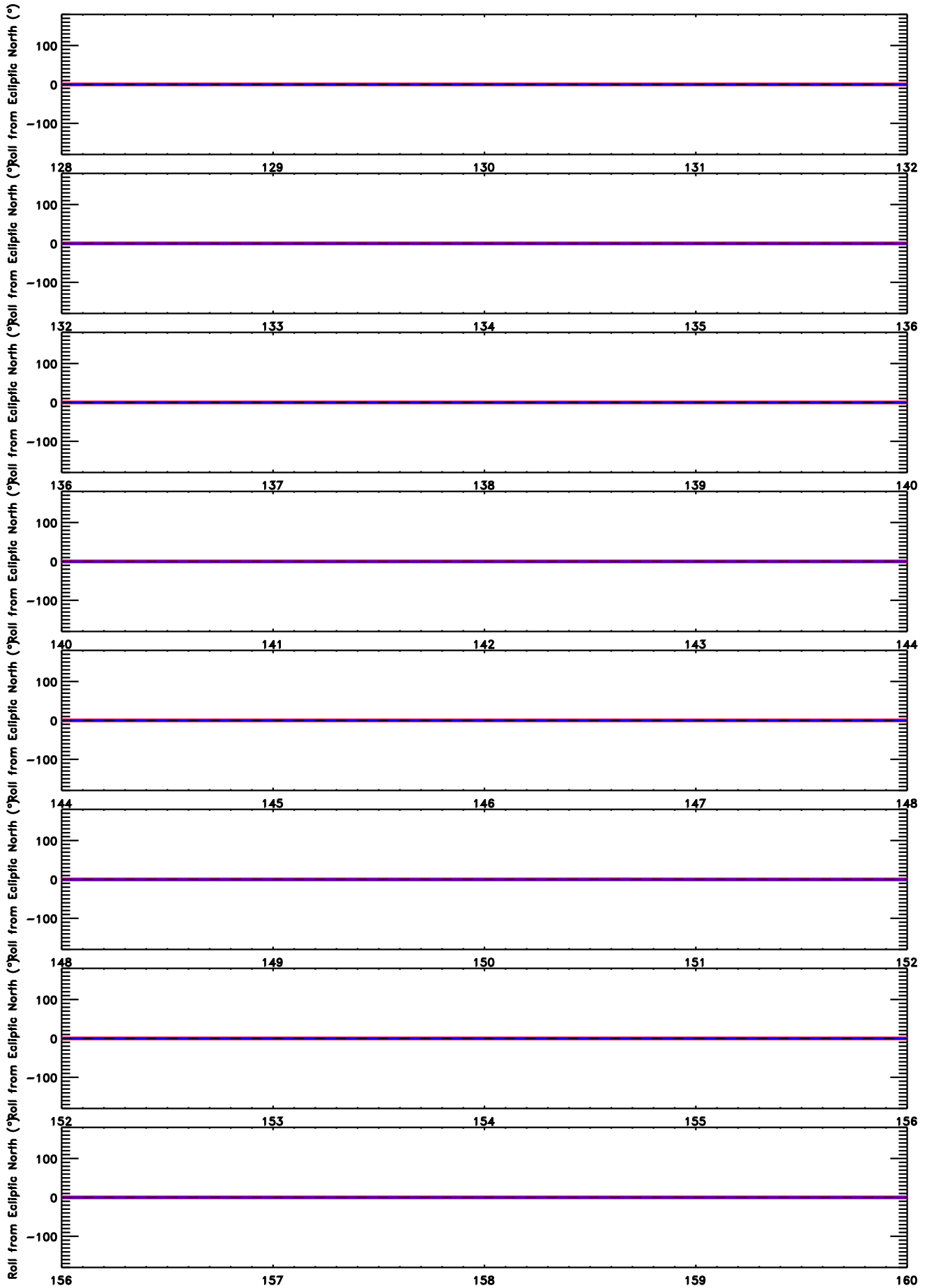
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2013

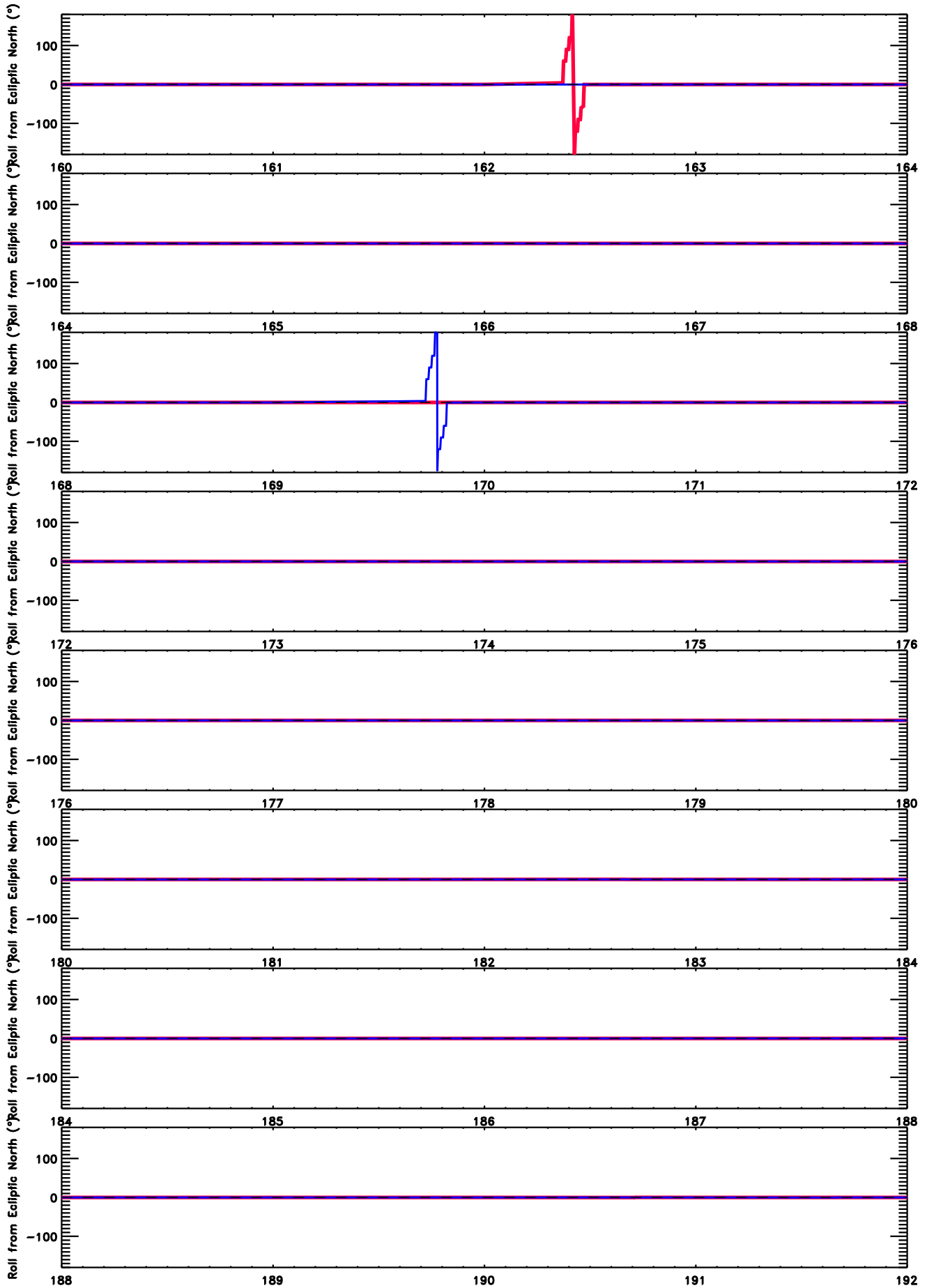
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



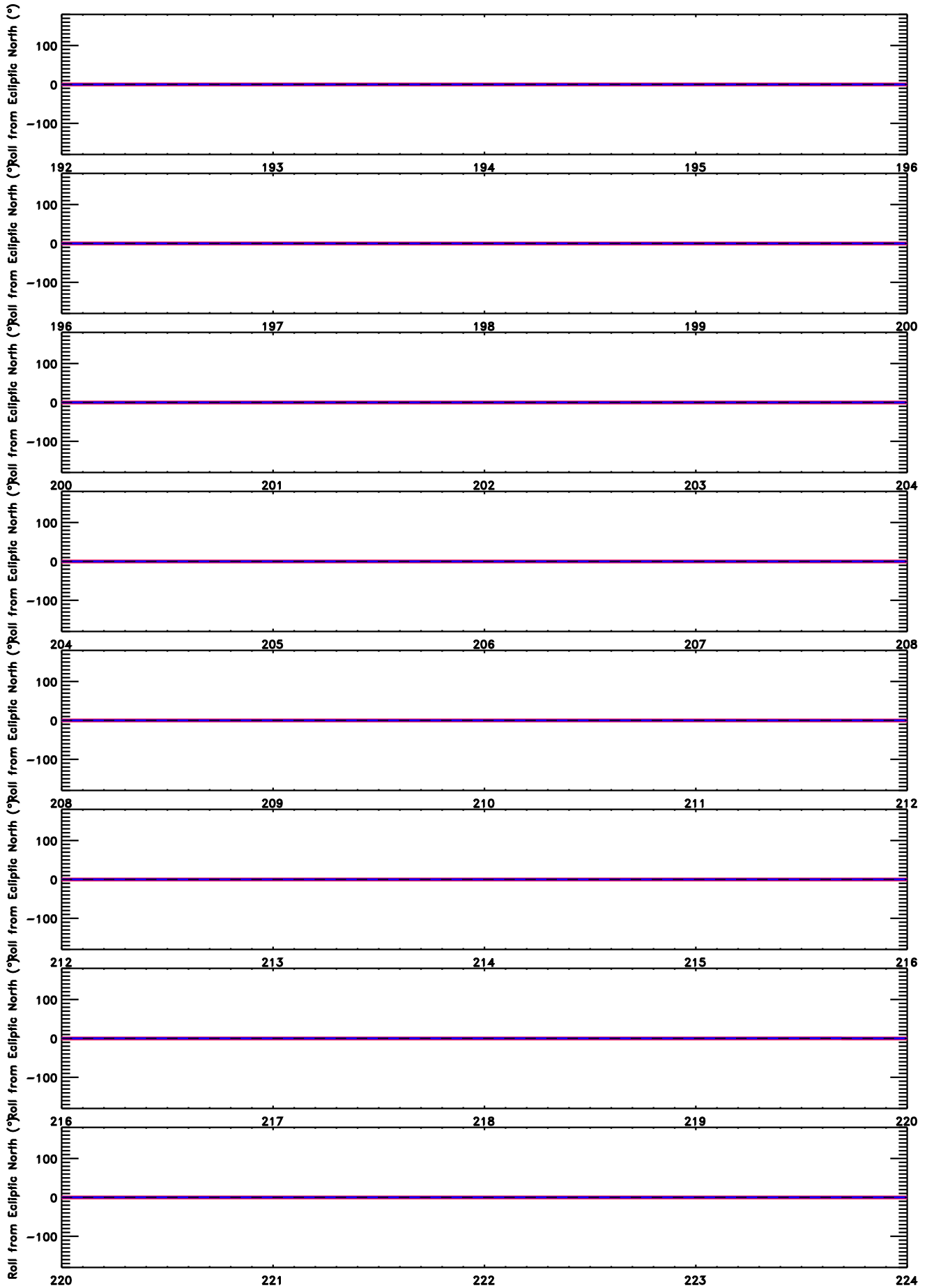
Day of 2013  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



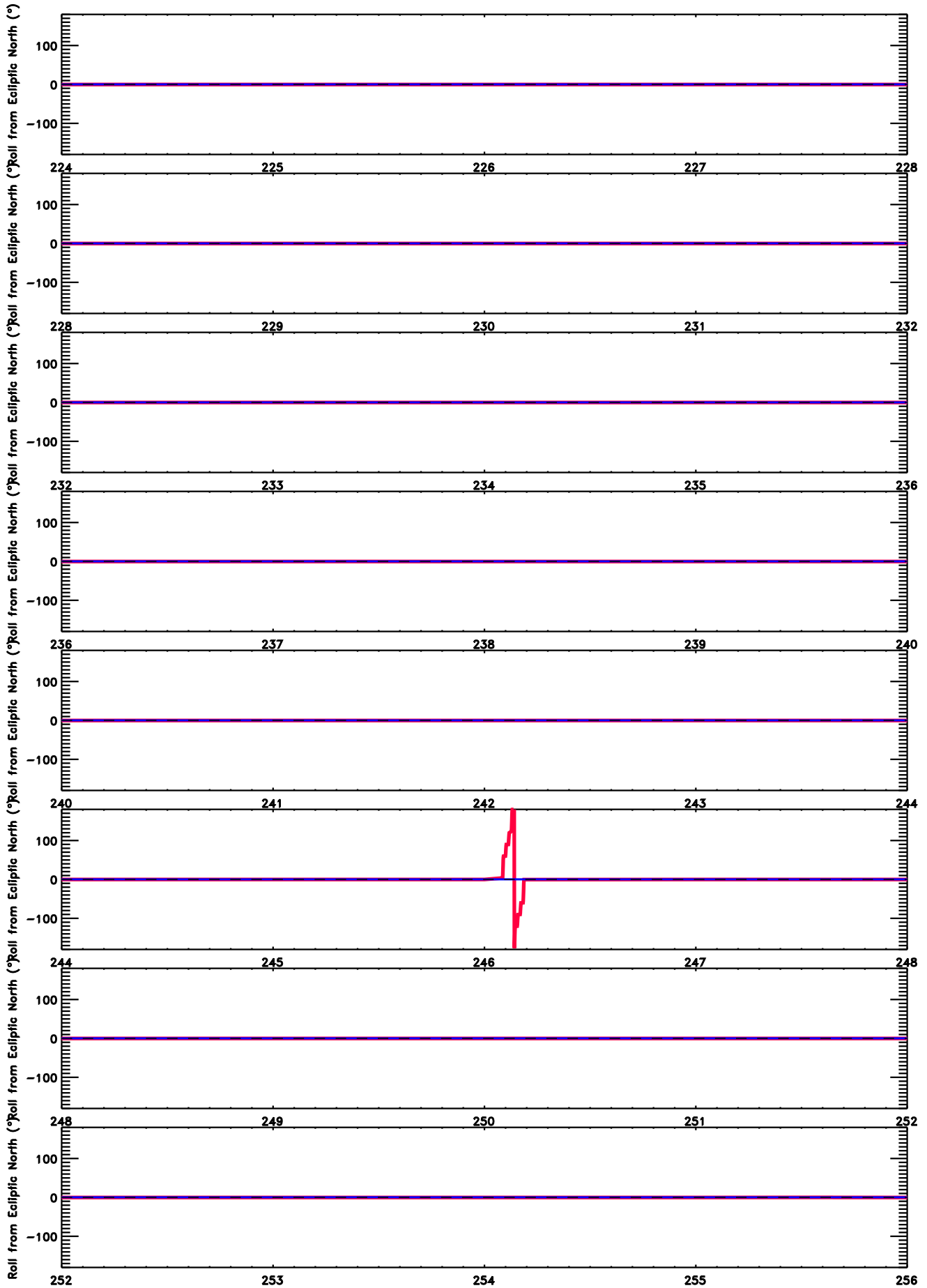
Day of 2013  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



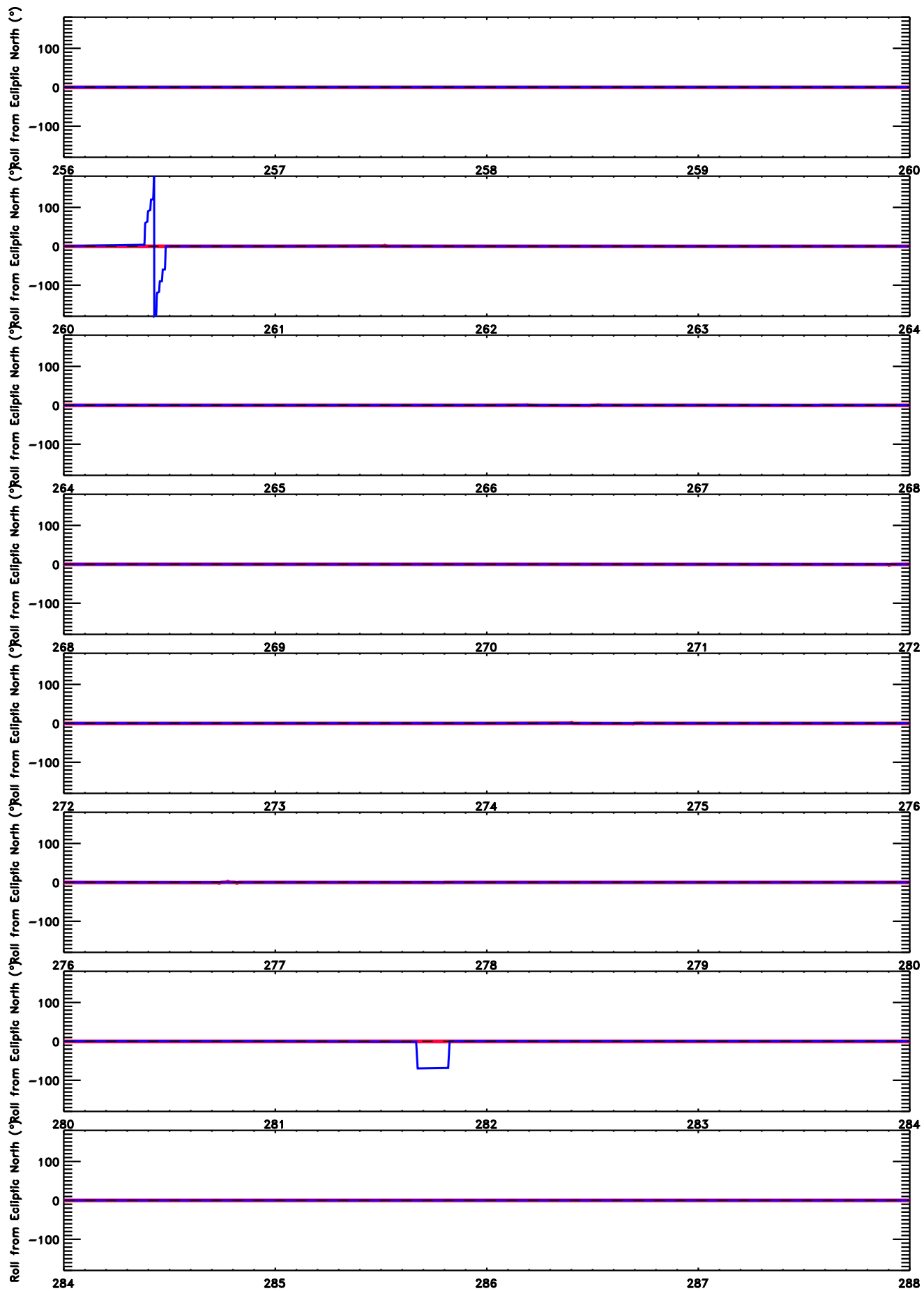
Day of 2013  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



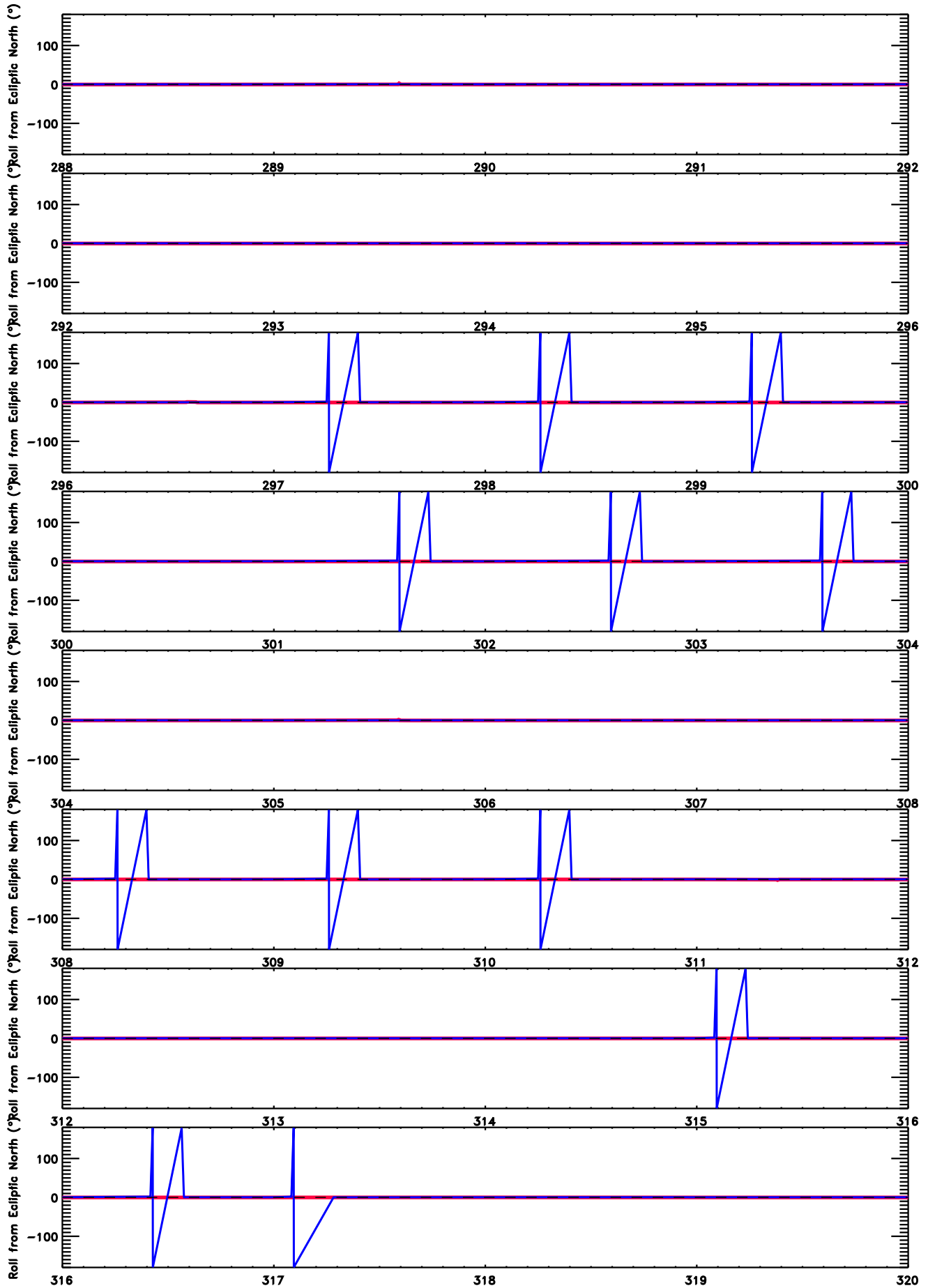
Day of 2013  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2013  
Red = Ahead; Blue = Behind

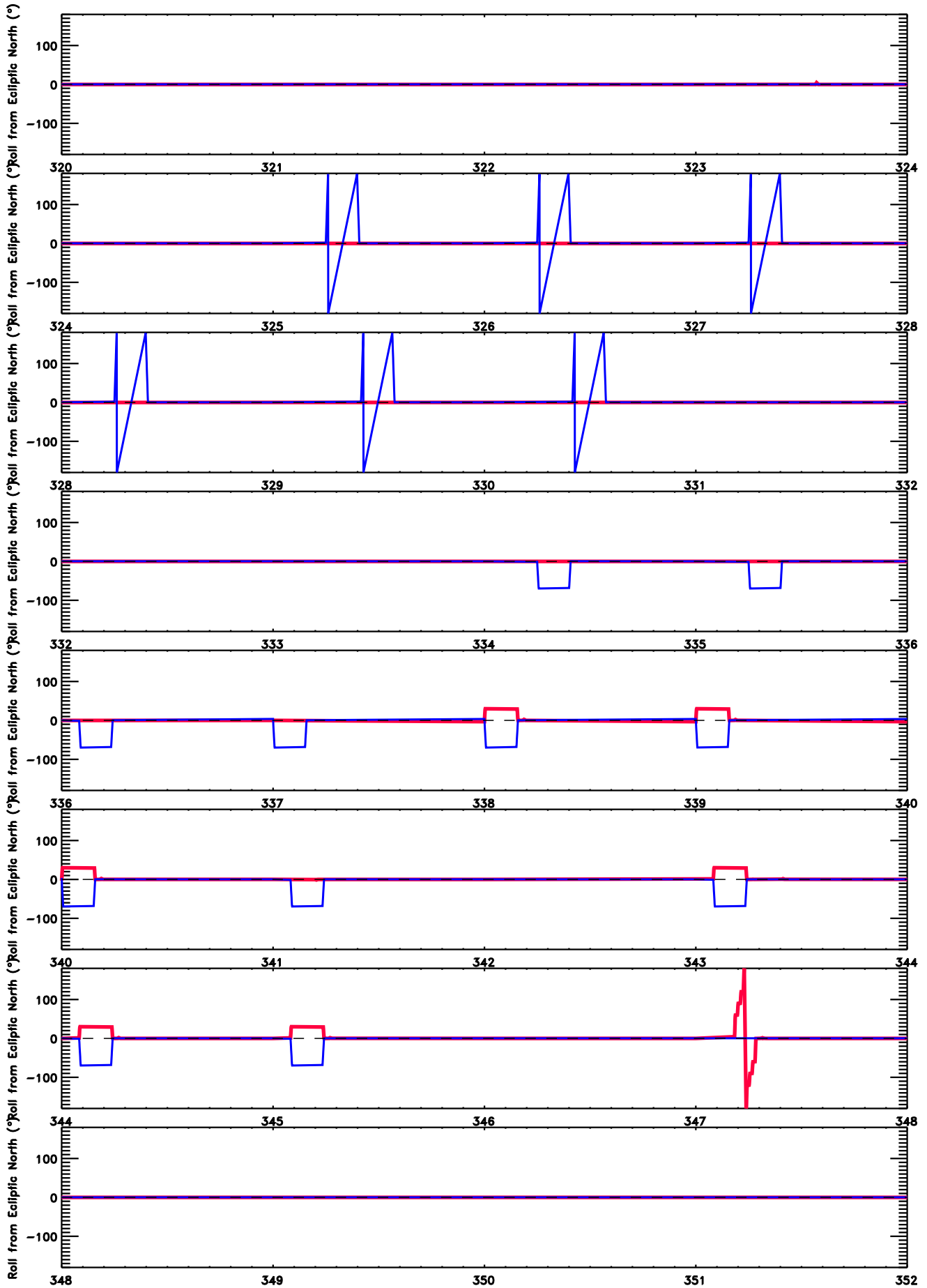
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2013  
Red = Ahead; Blue = Behind

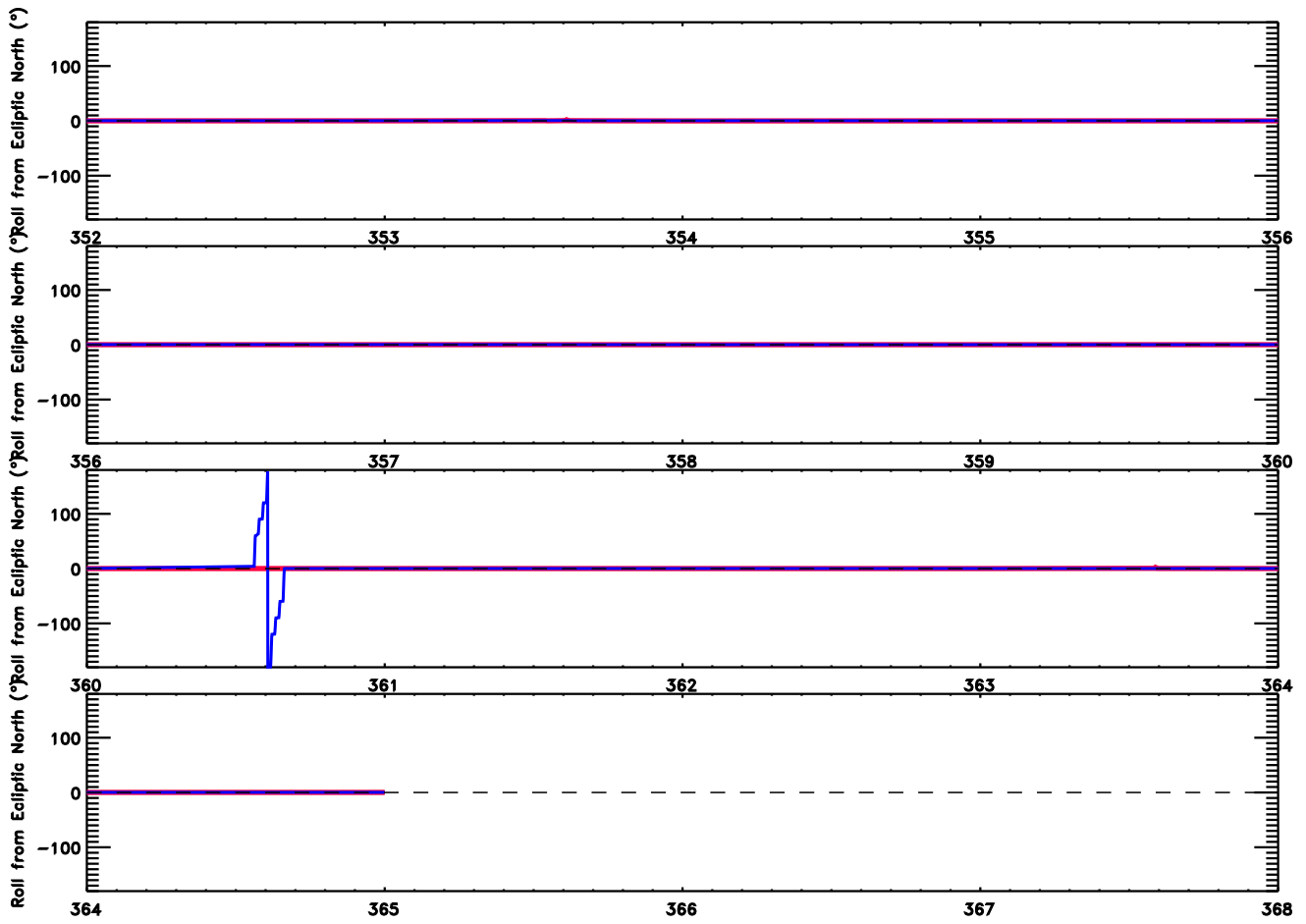


# Roll Angle from Ecliptic North ( $^{\circ}$ )



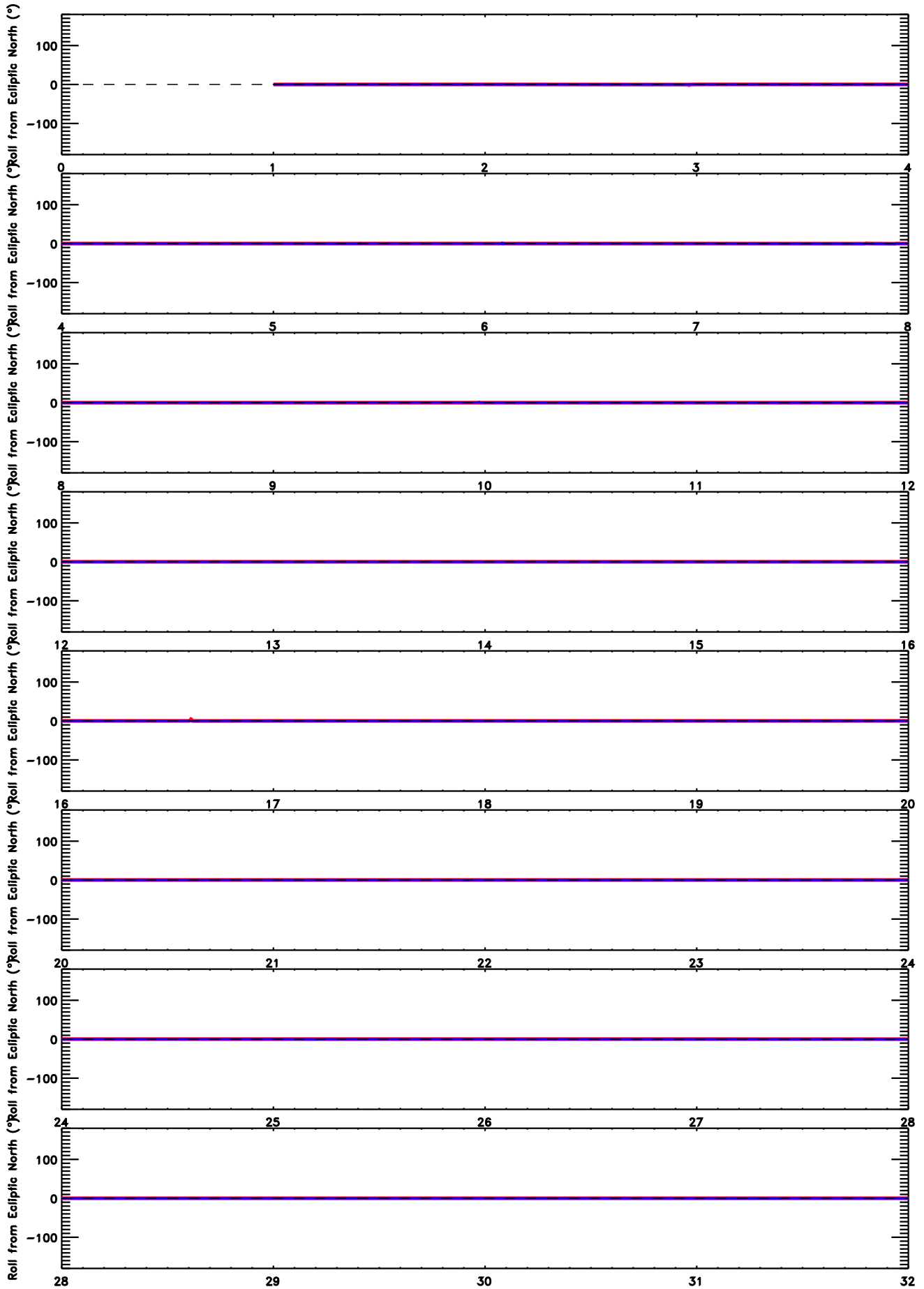
Day of 2013  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



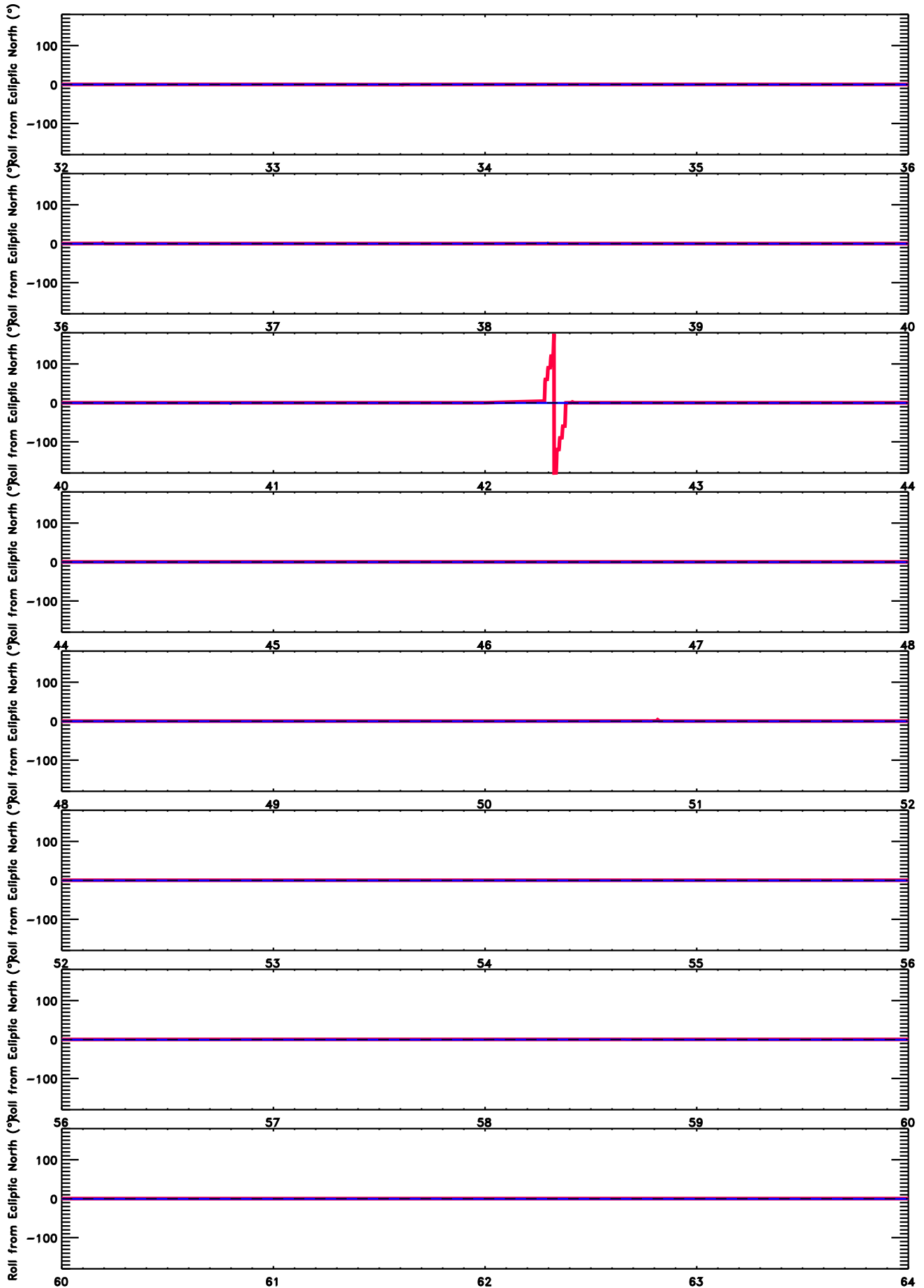
Day of 2013  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



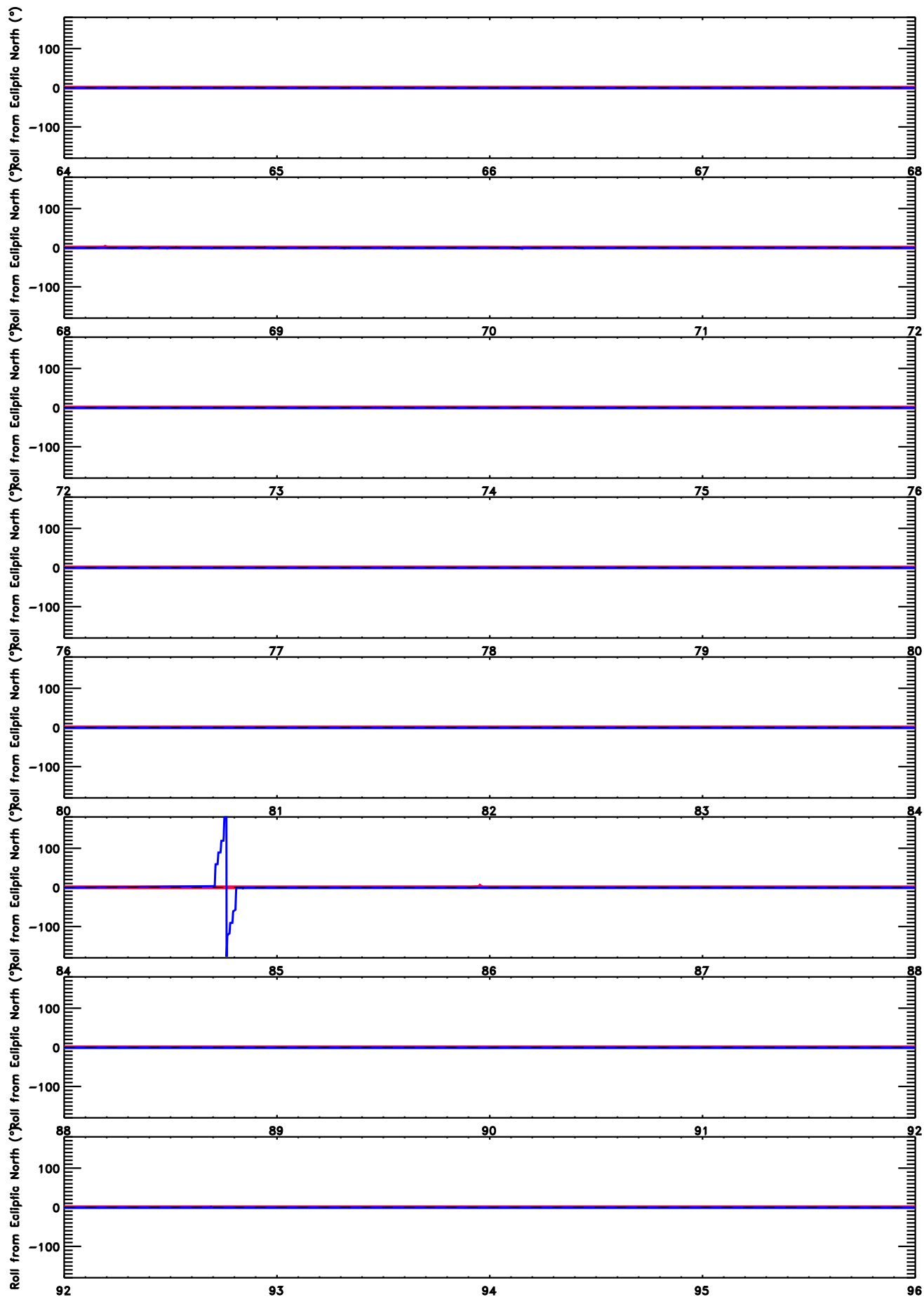
Day of 2014  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



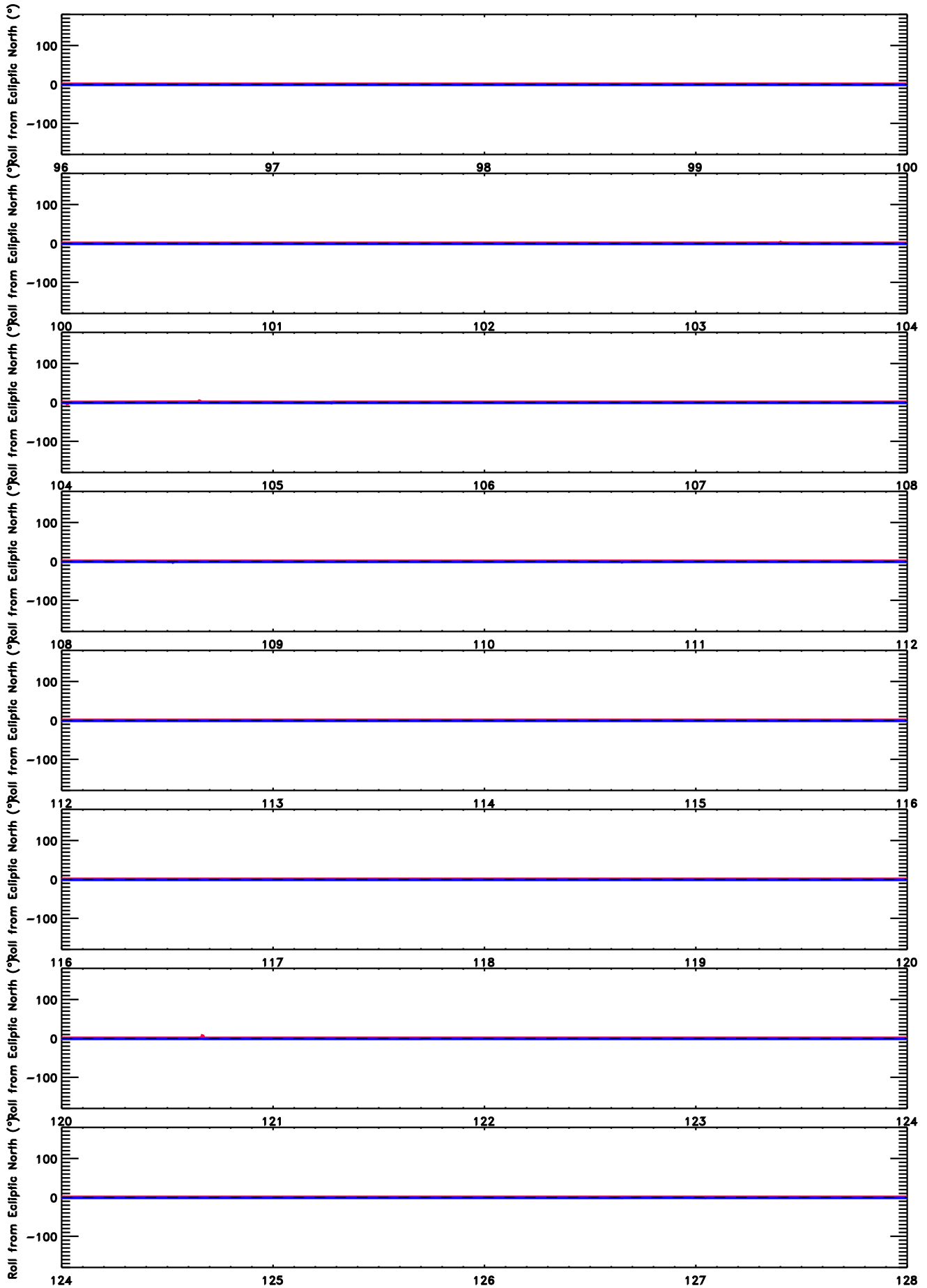
Day of 2014  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



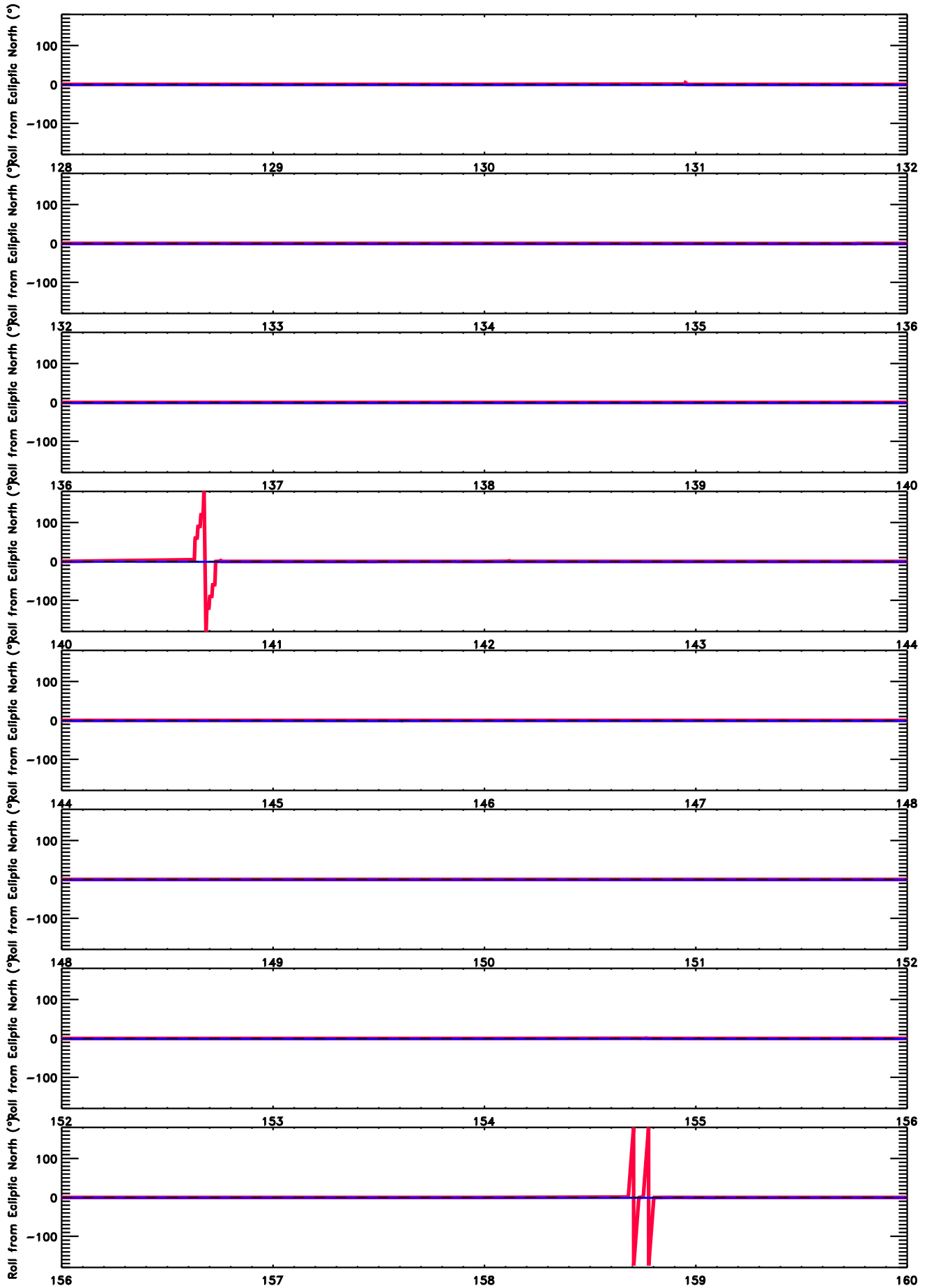
Day of 2014  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



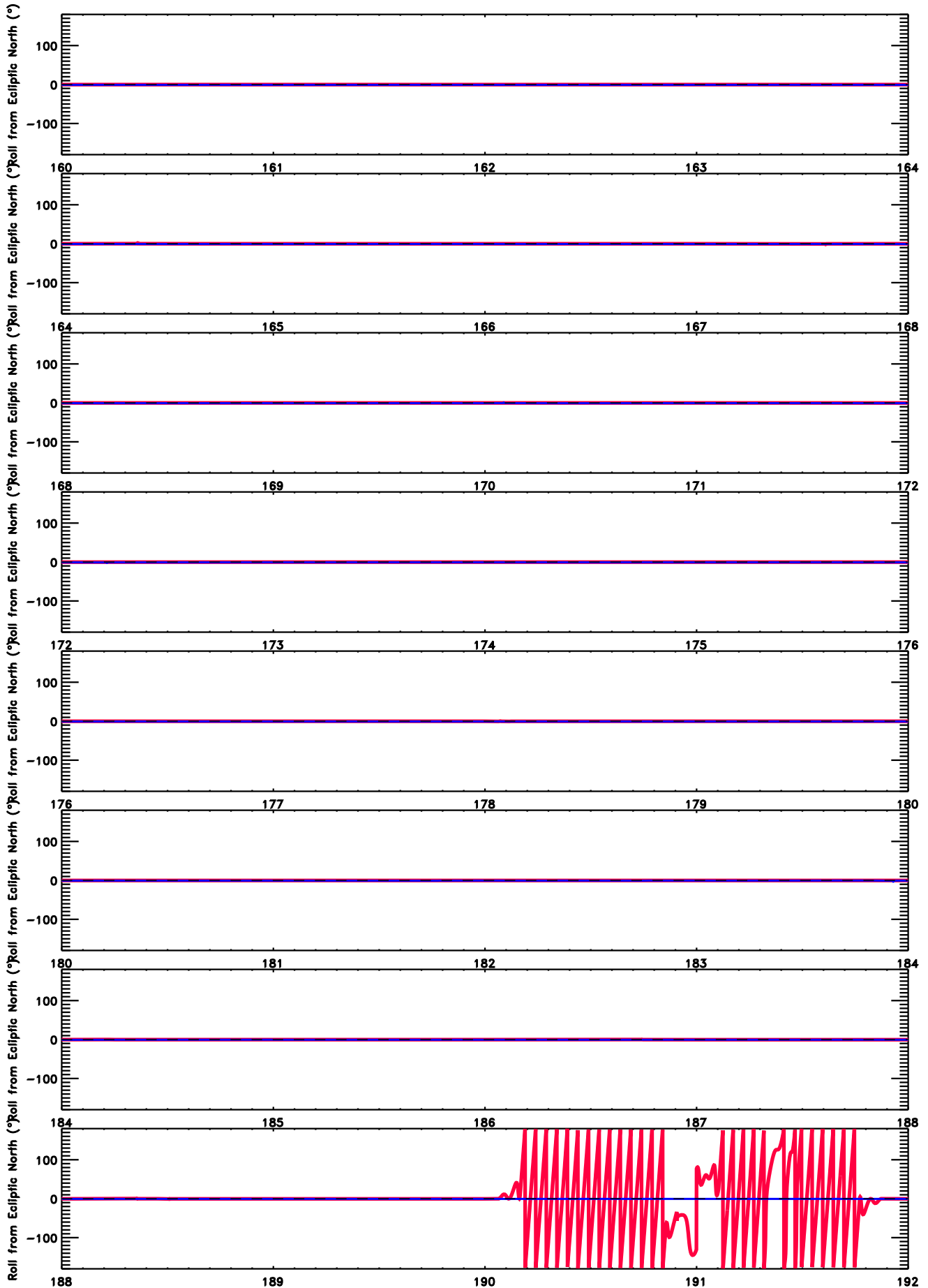
Day of 2014  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2014  
Red = Ahead; Blue = Behind

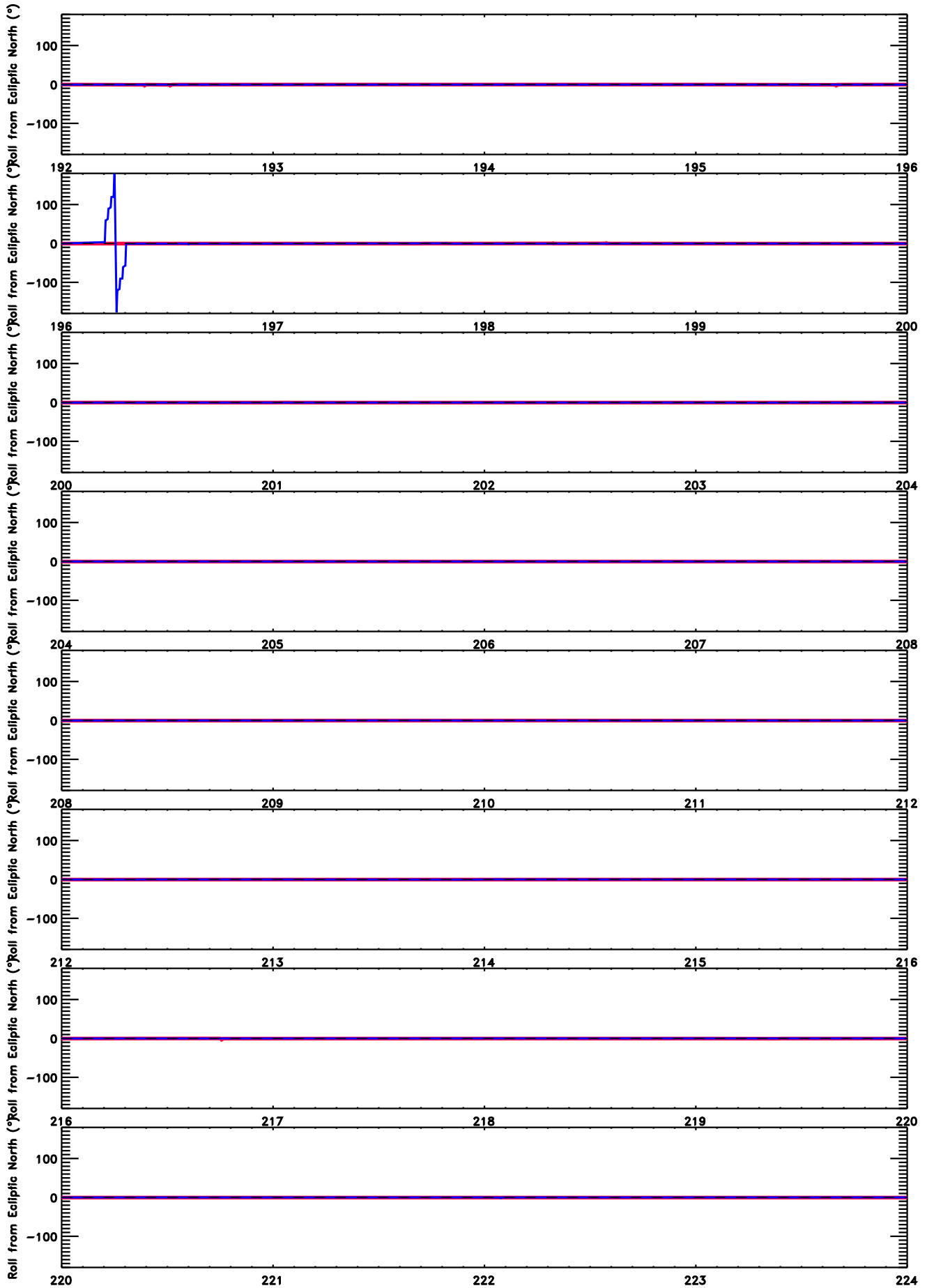
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2014  
Red = Ahead; Blue = Behind

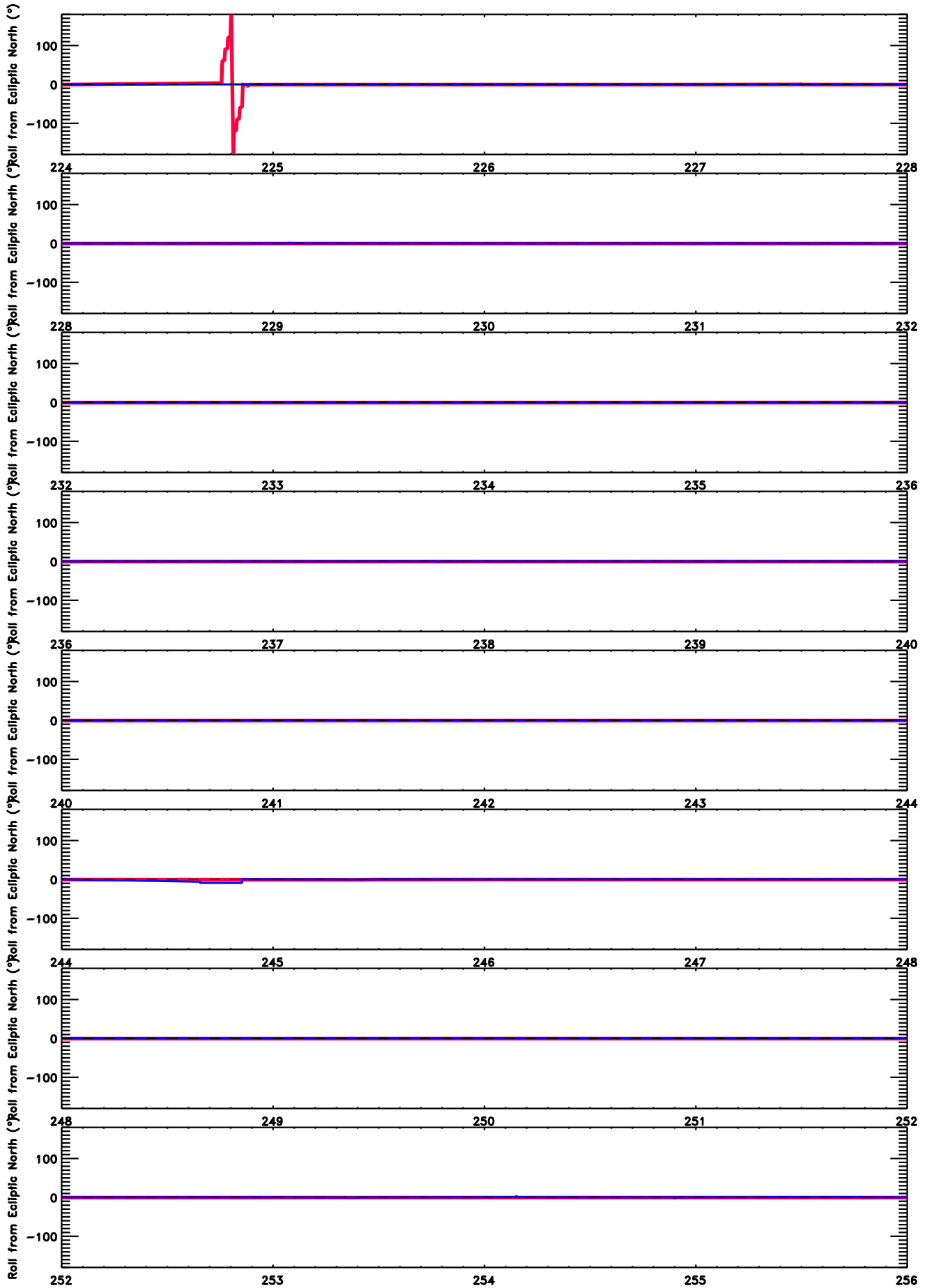


# Roll Angle from Ecliptic North ( $^{\circ}$ )



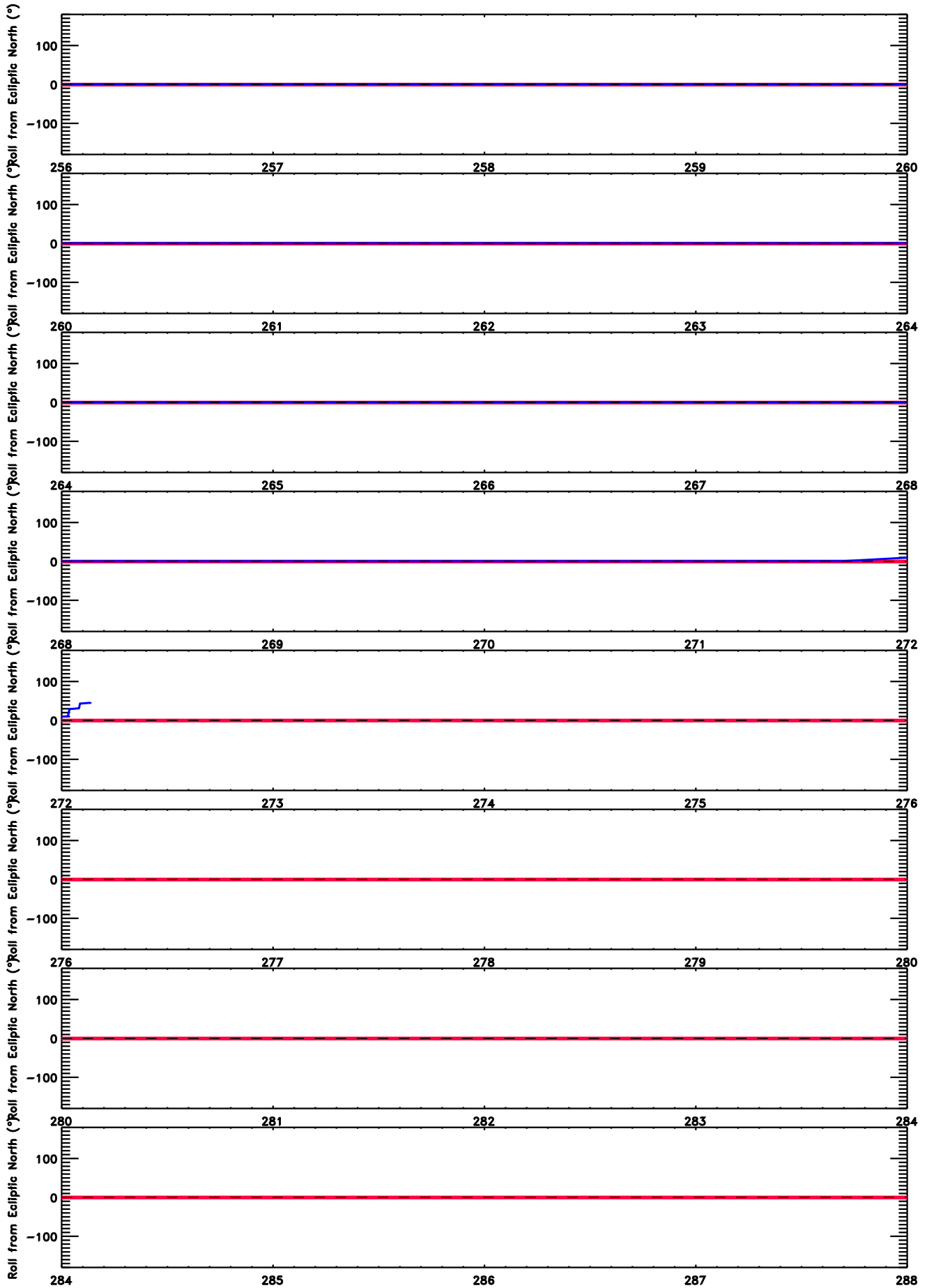
Day of 2014  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



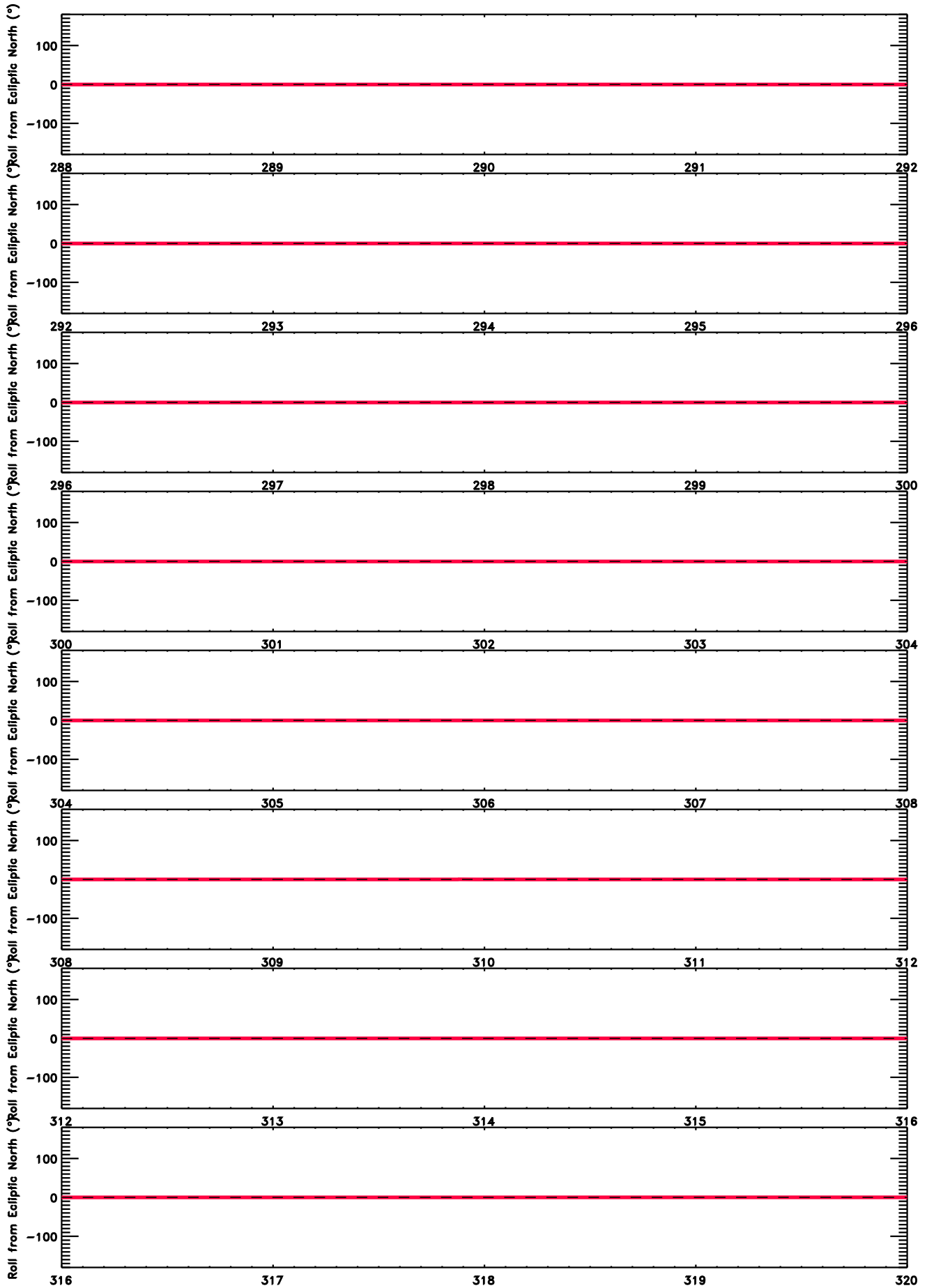
Day of 2014  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



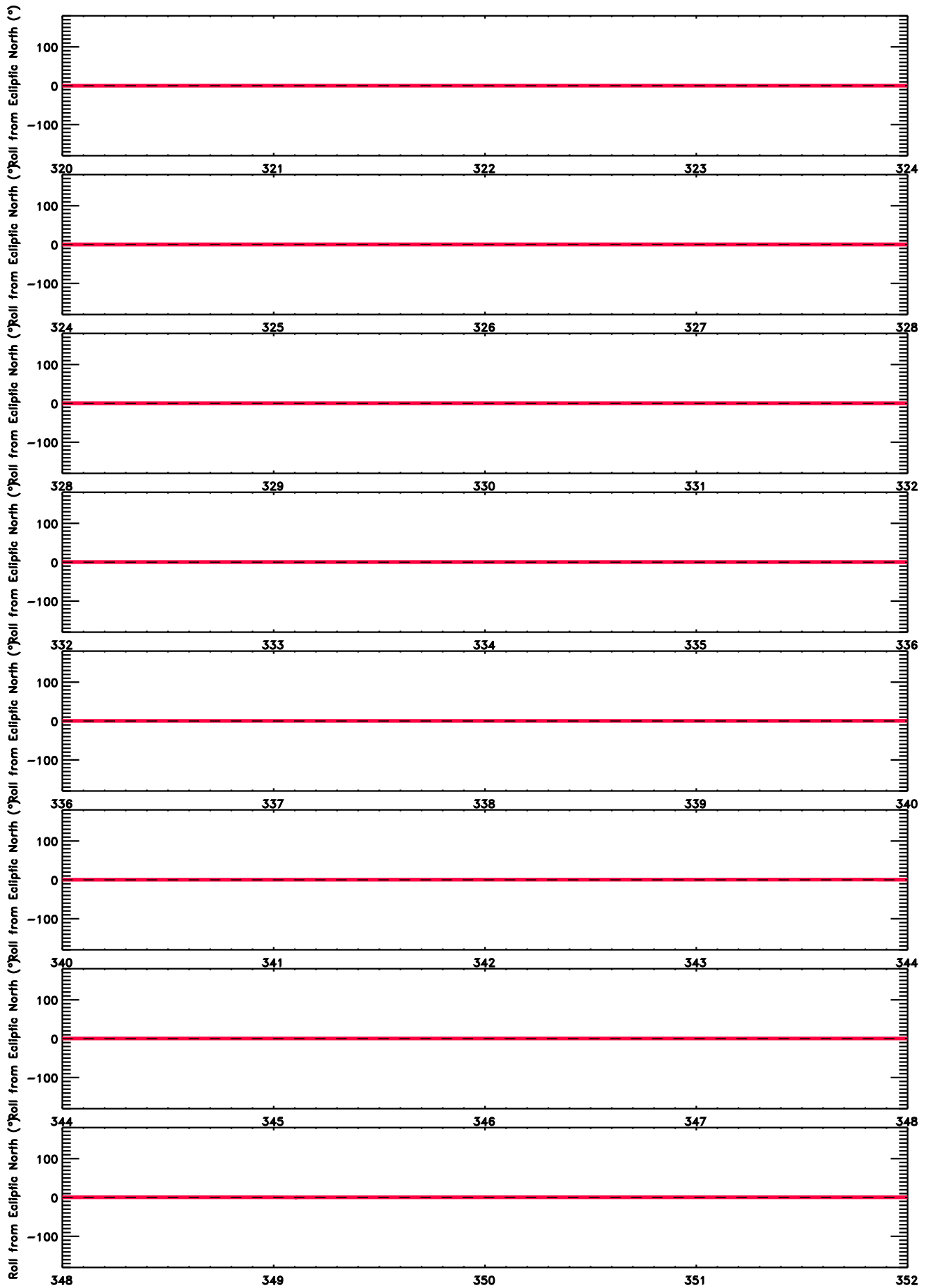
Day of 2014  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



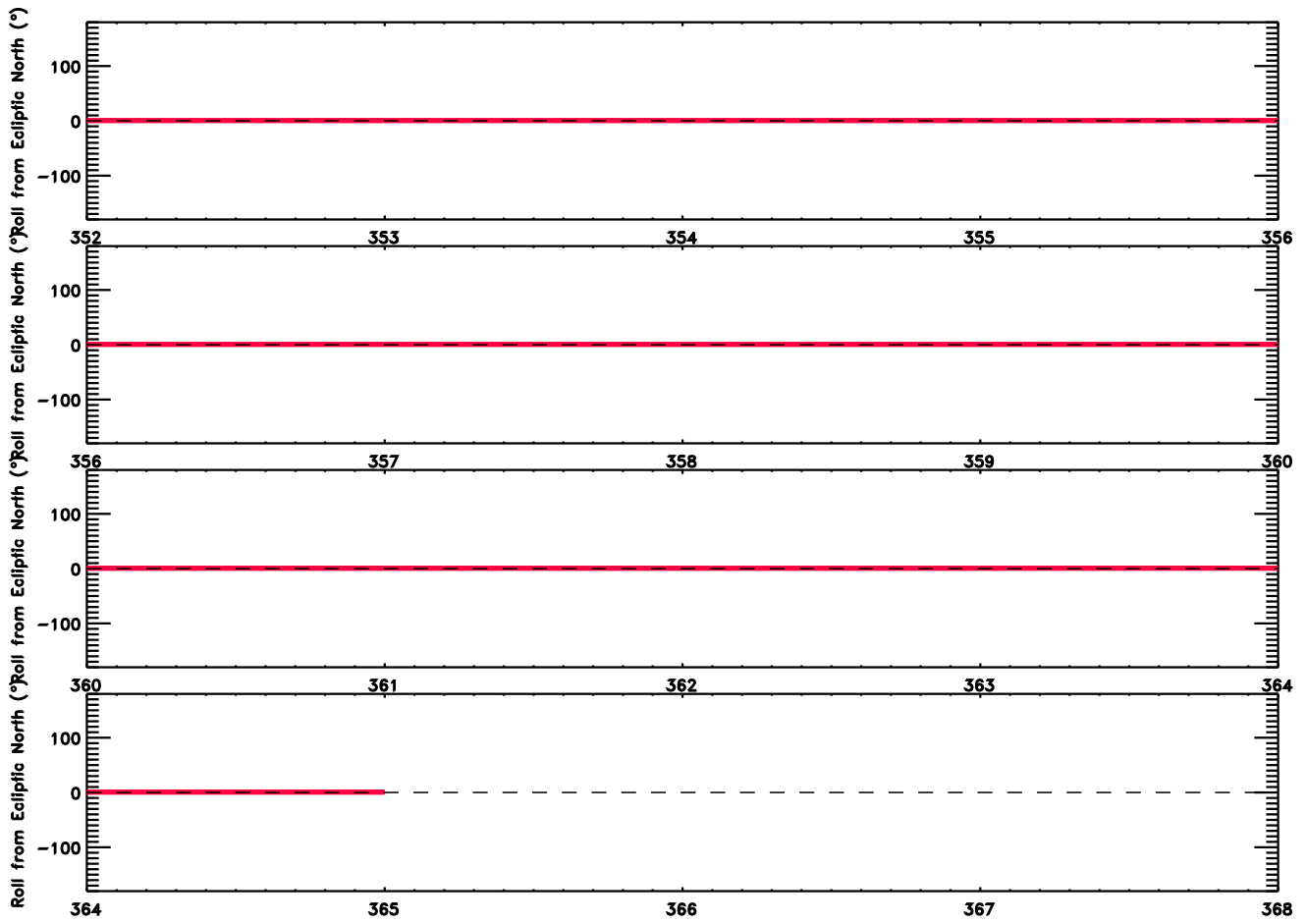
Day of 2014  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



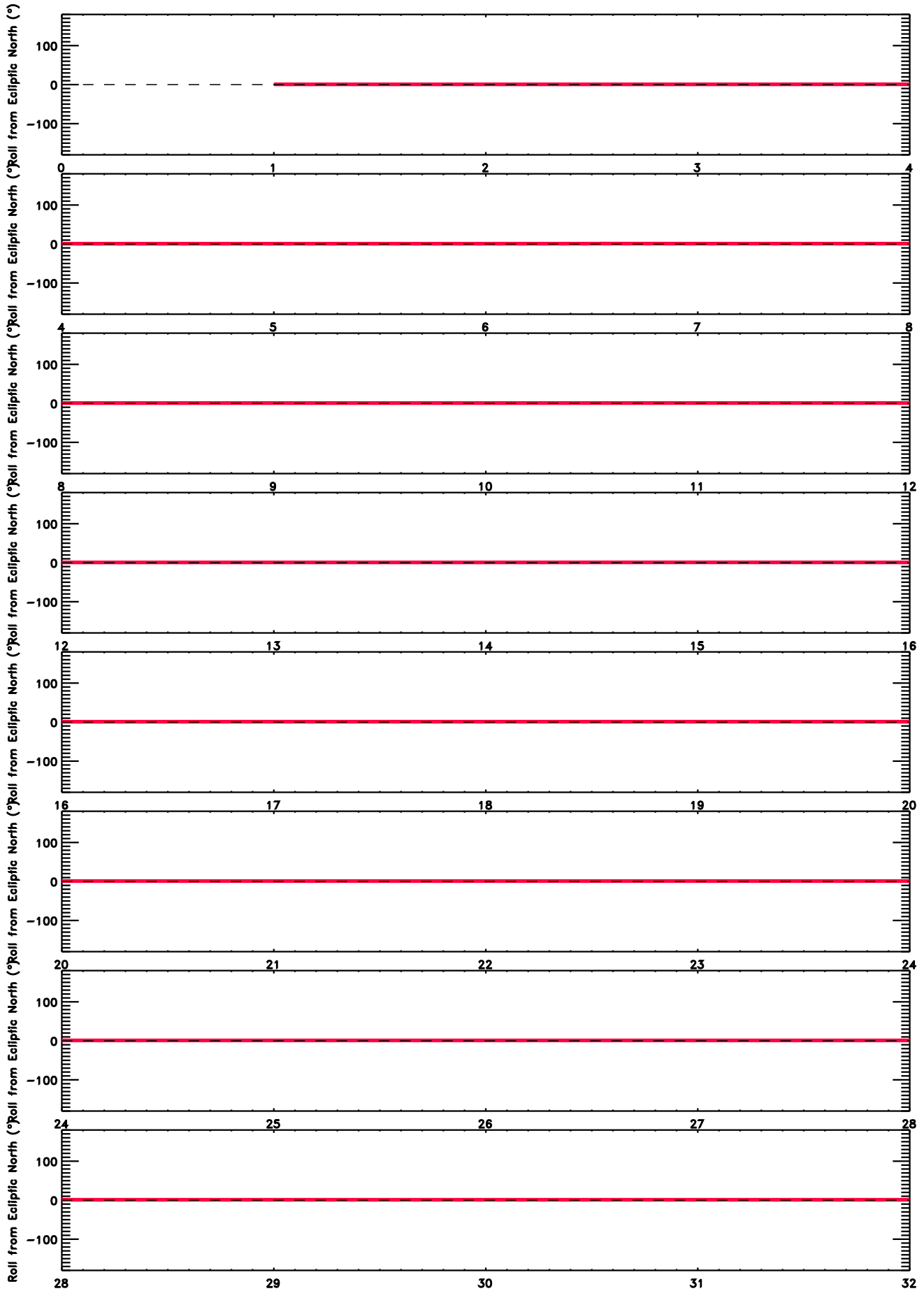
Day of 2014  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



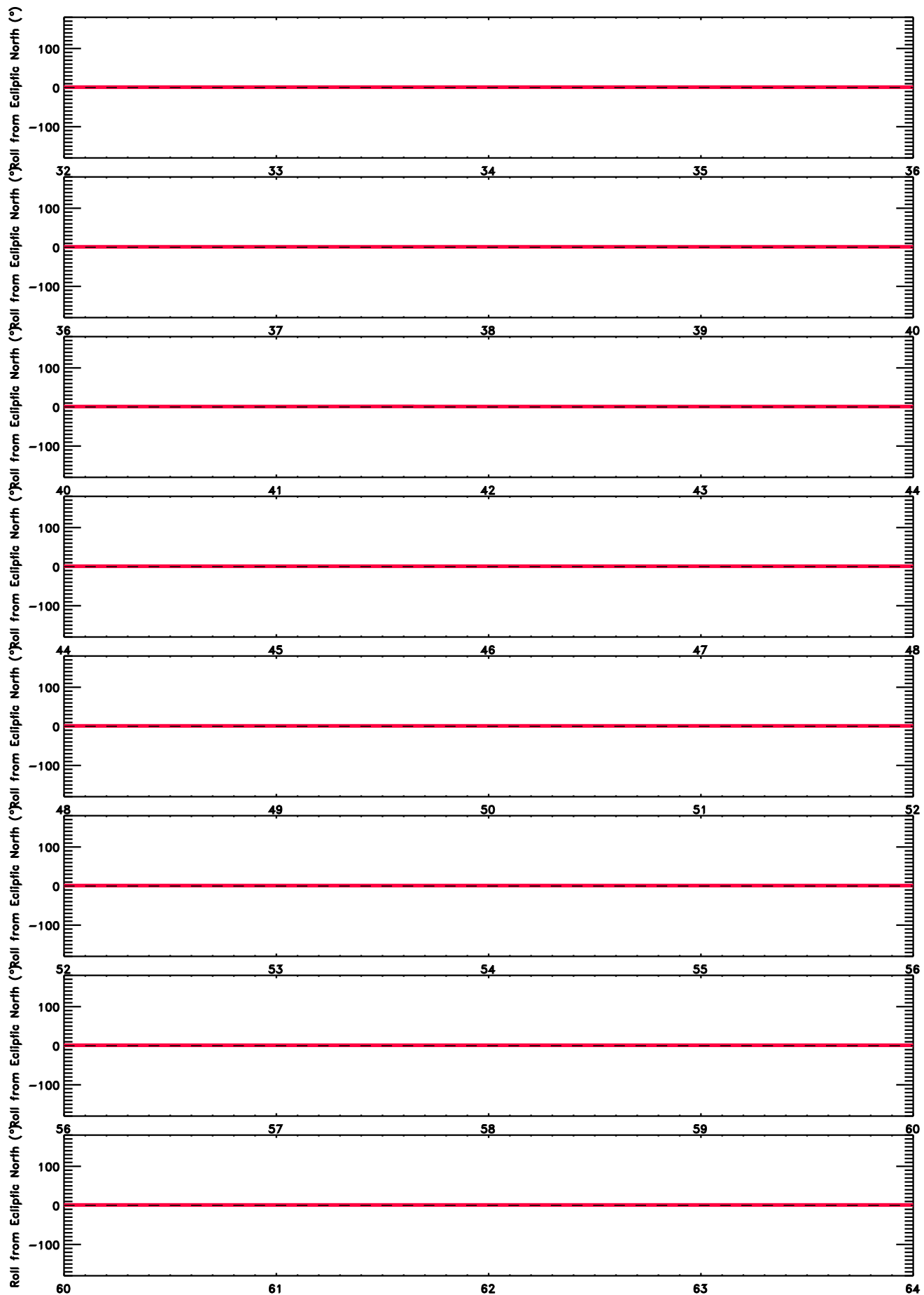
Day of 2014  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2015  
Red = Ahead; Blue = Behind

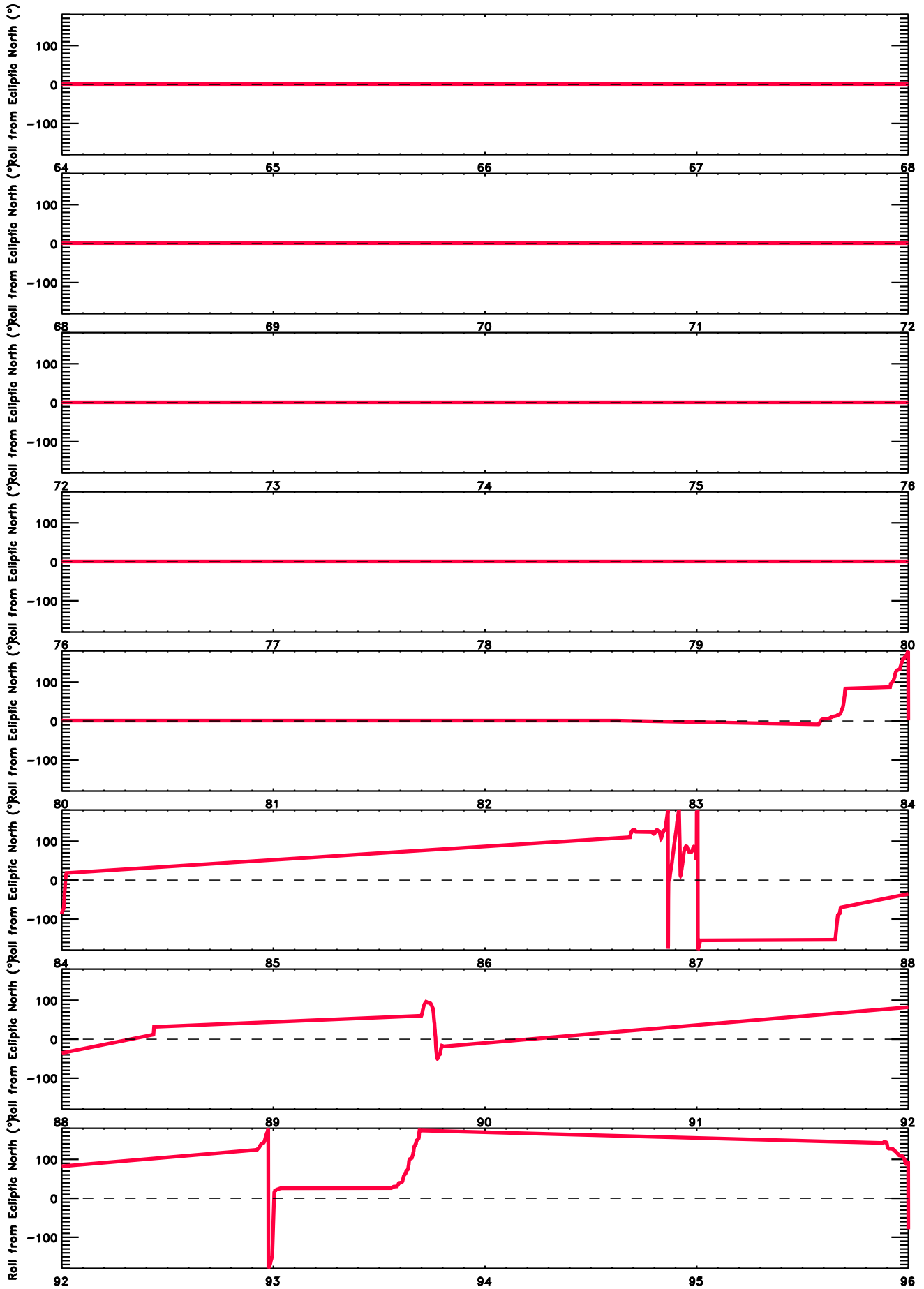
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2015  
Red = Ahead; Blue = Behind

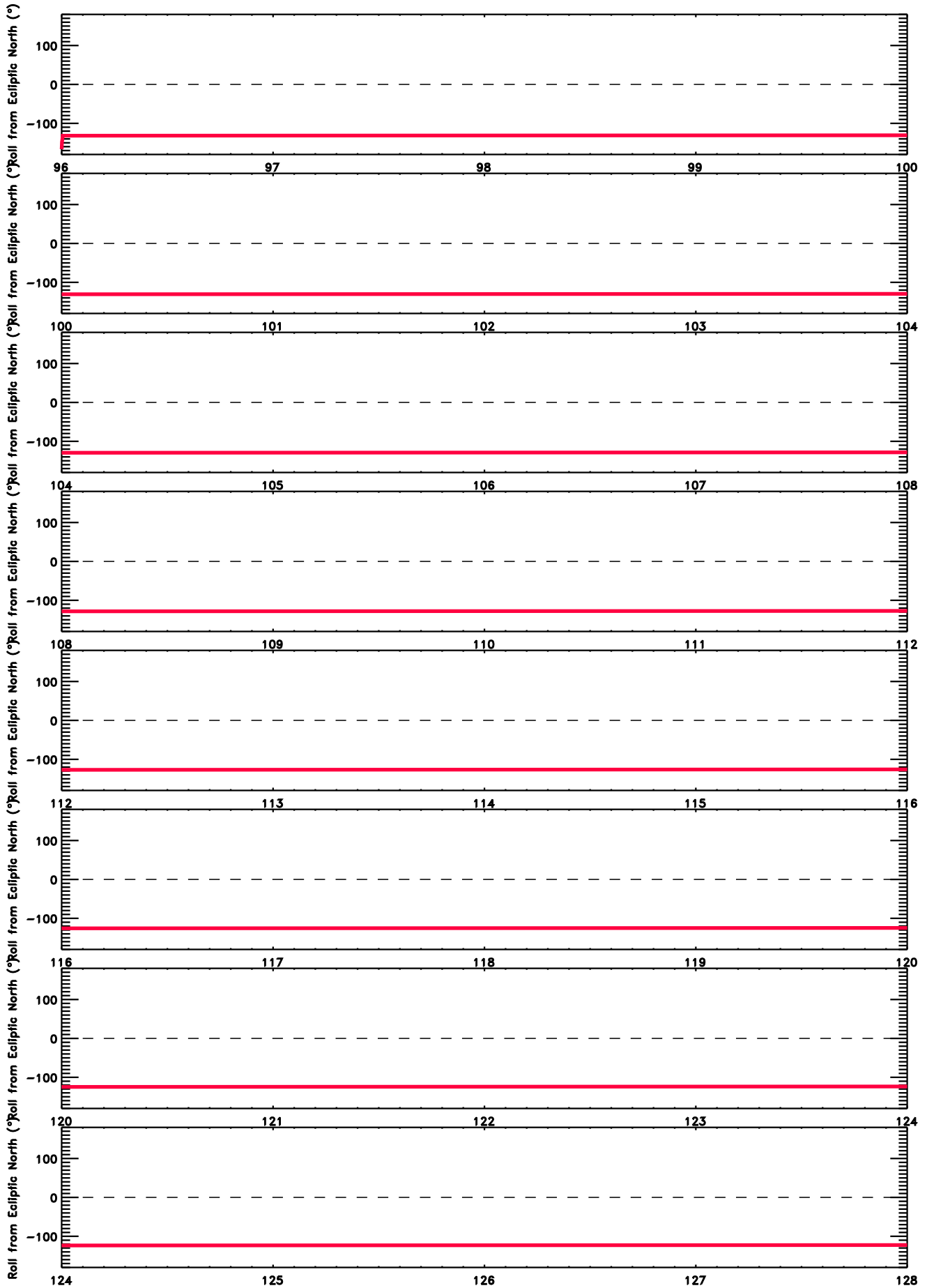


# Roll Angle from Ecliptic North ( $^{\circ}$ )



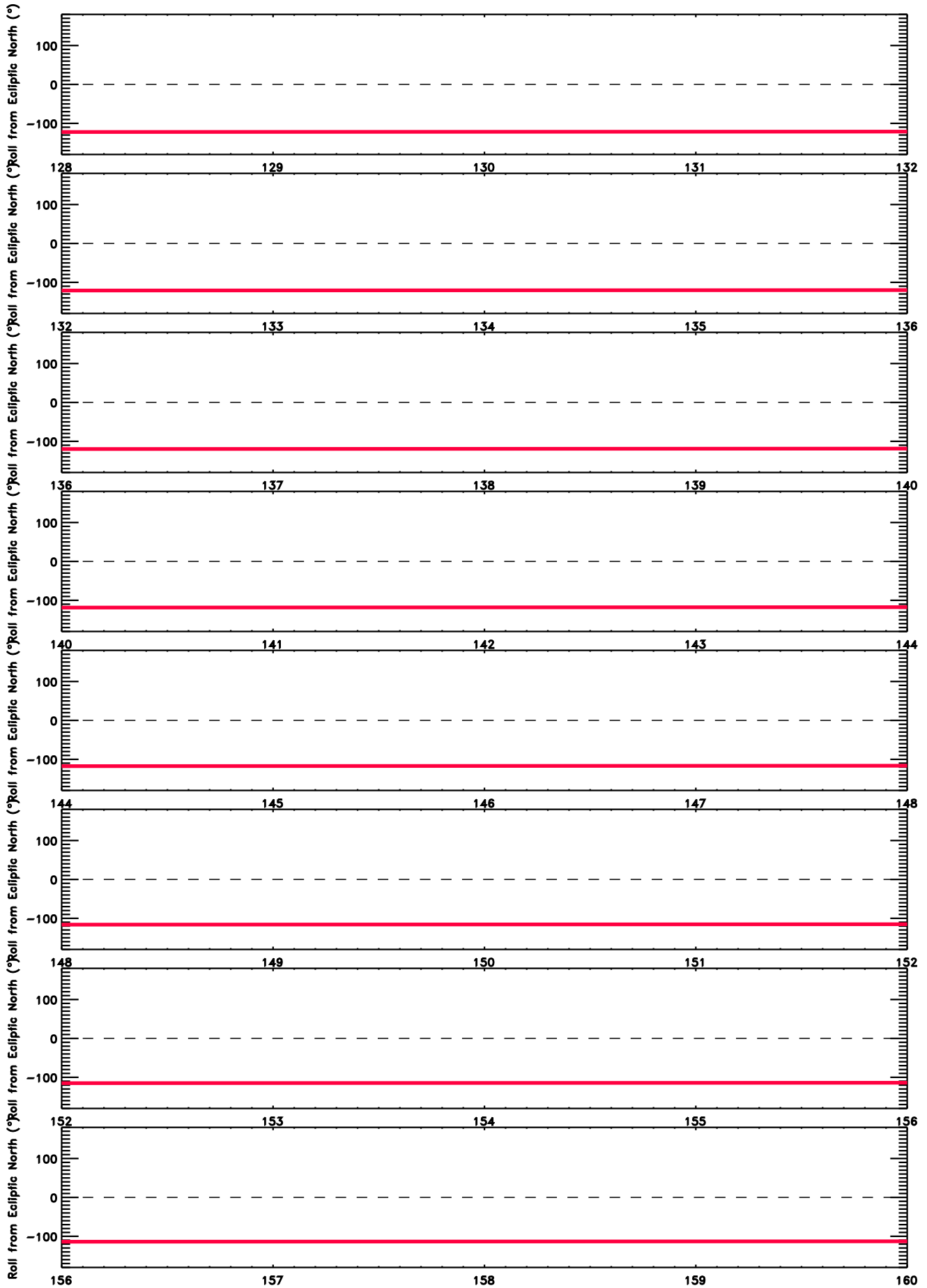
Day of 2015  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



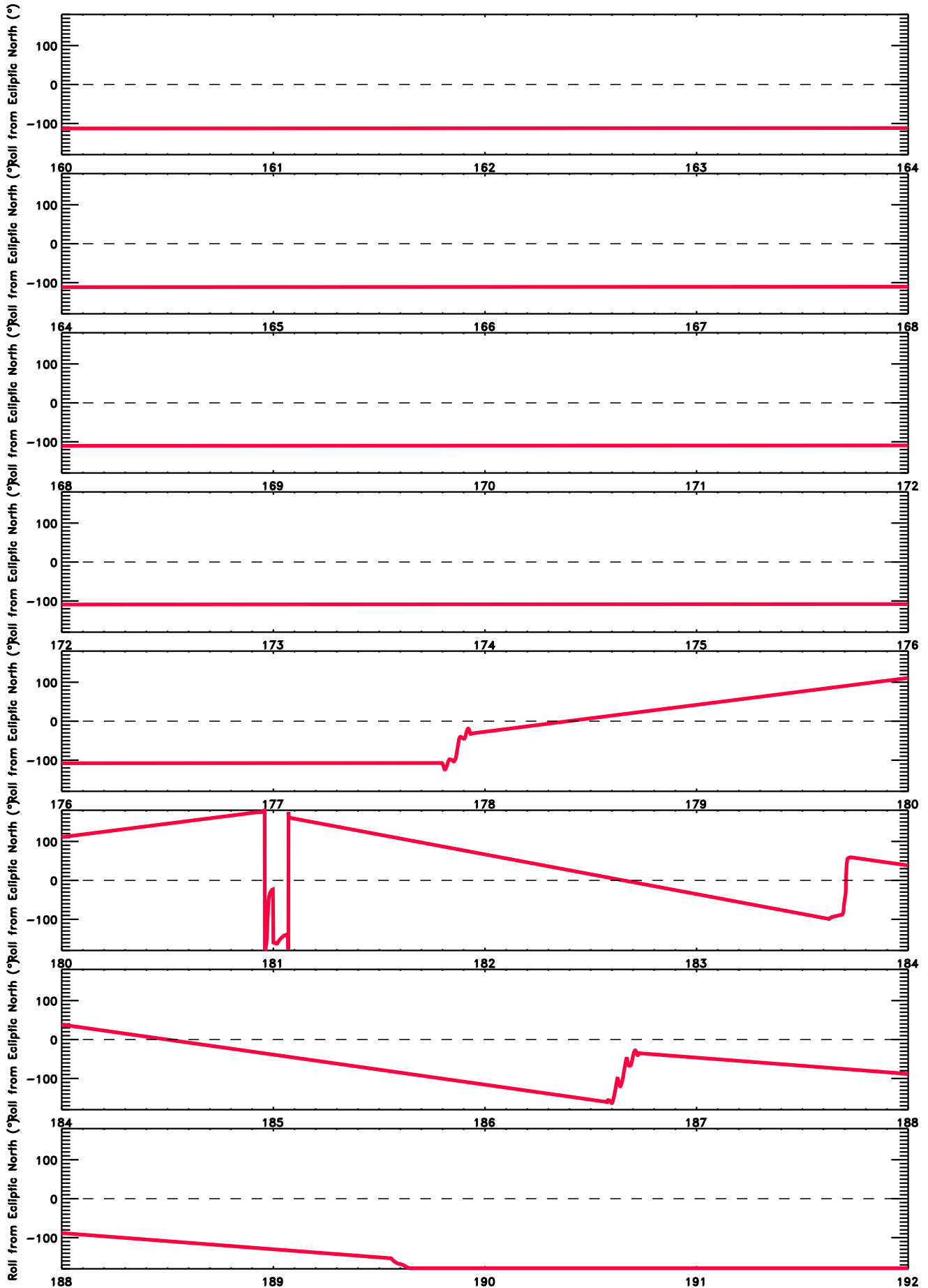
Day of 2015  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



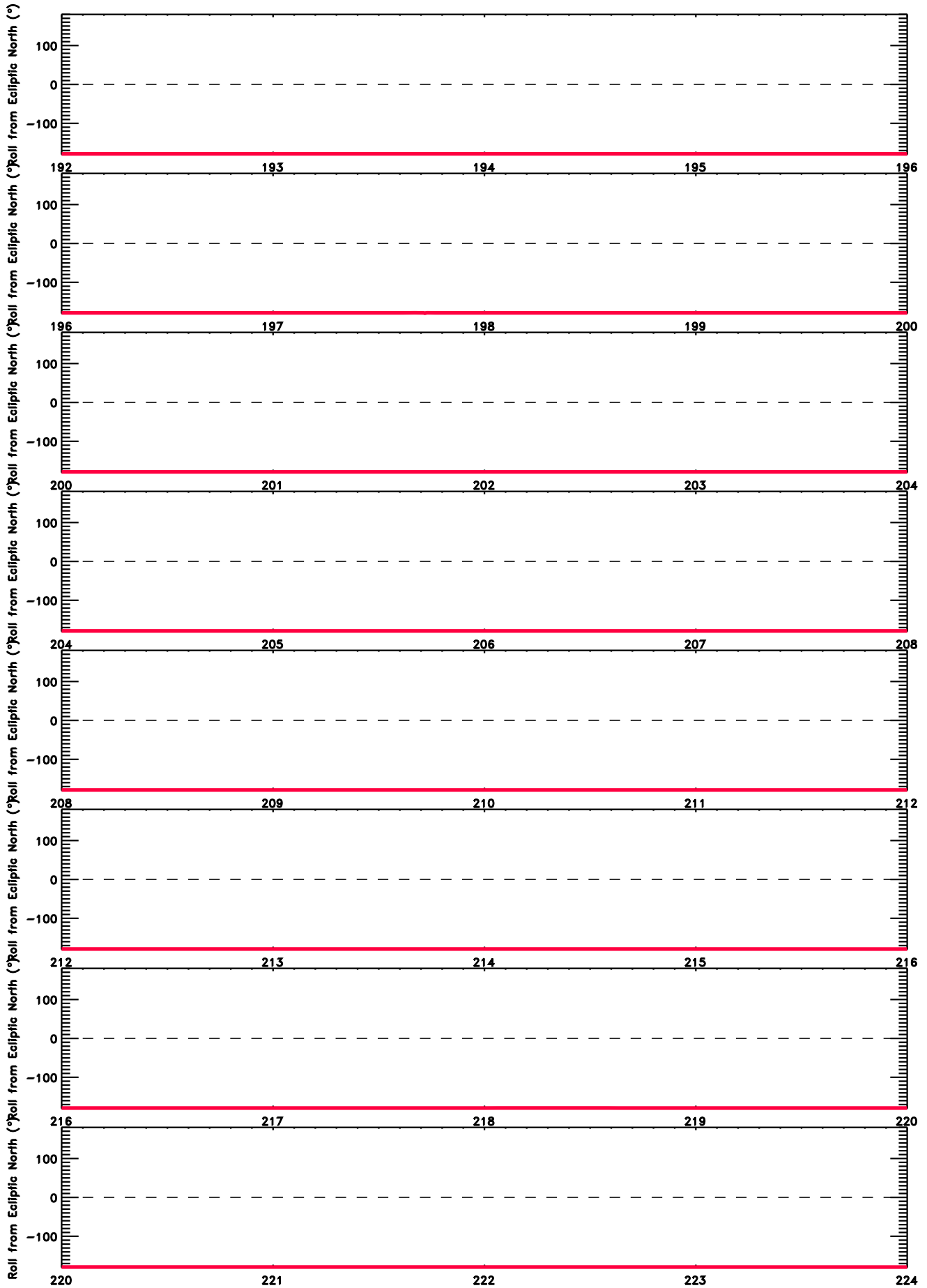
Day of 2015  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



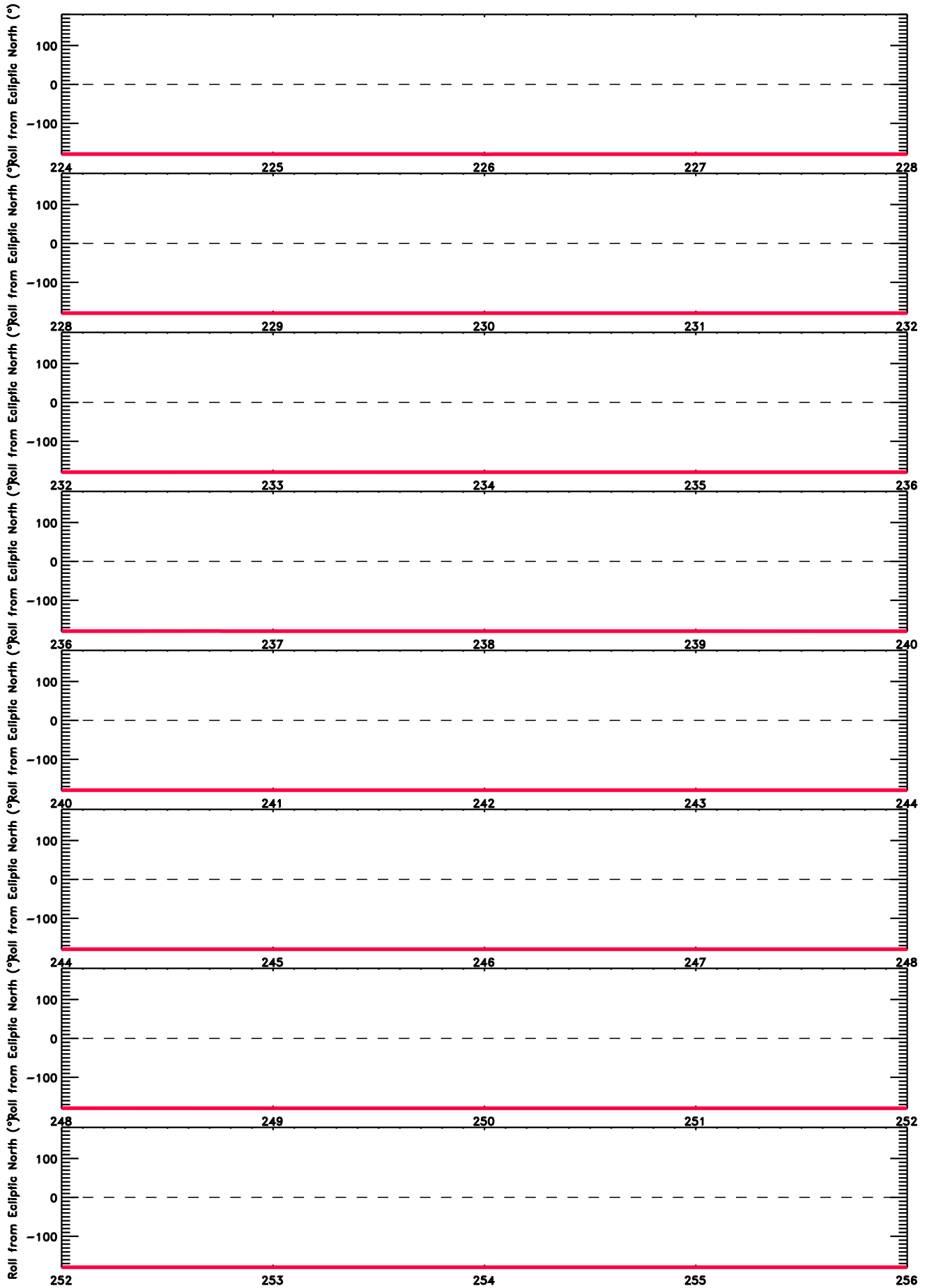
Day of 2015  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



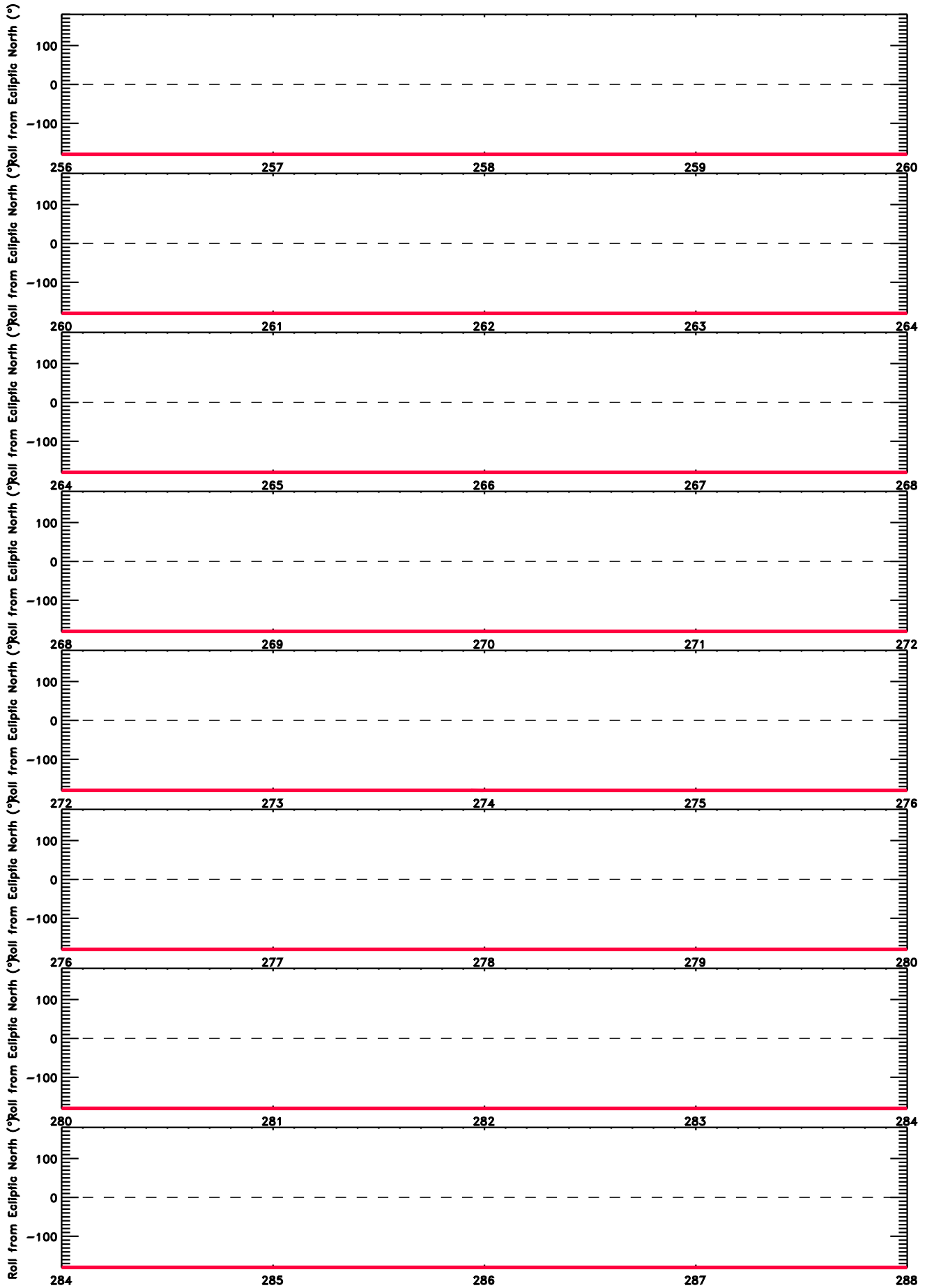
Day of 2015  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



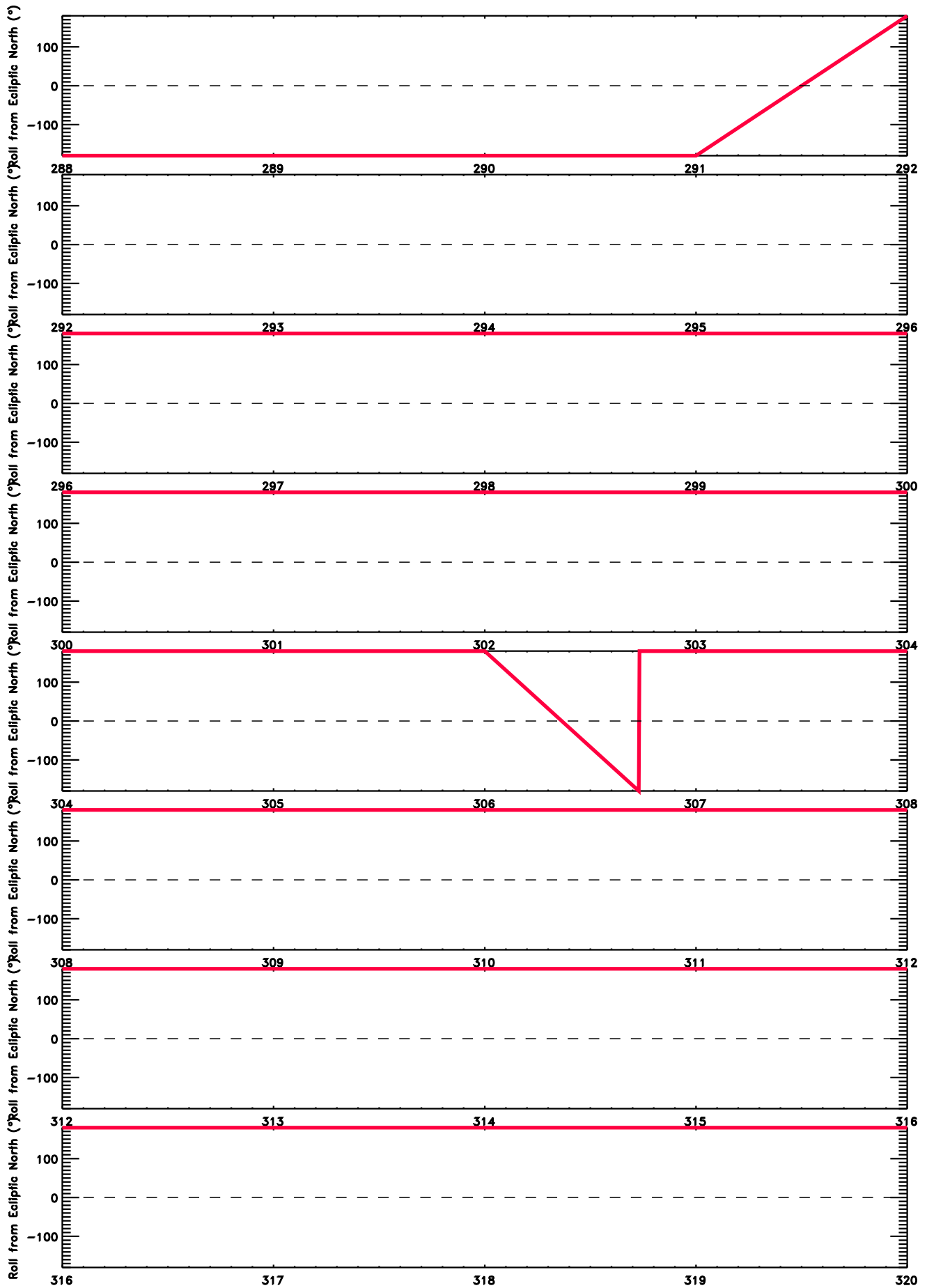
Day of 2015  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2015  
Red = Ahead; Blue = Behind

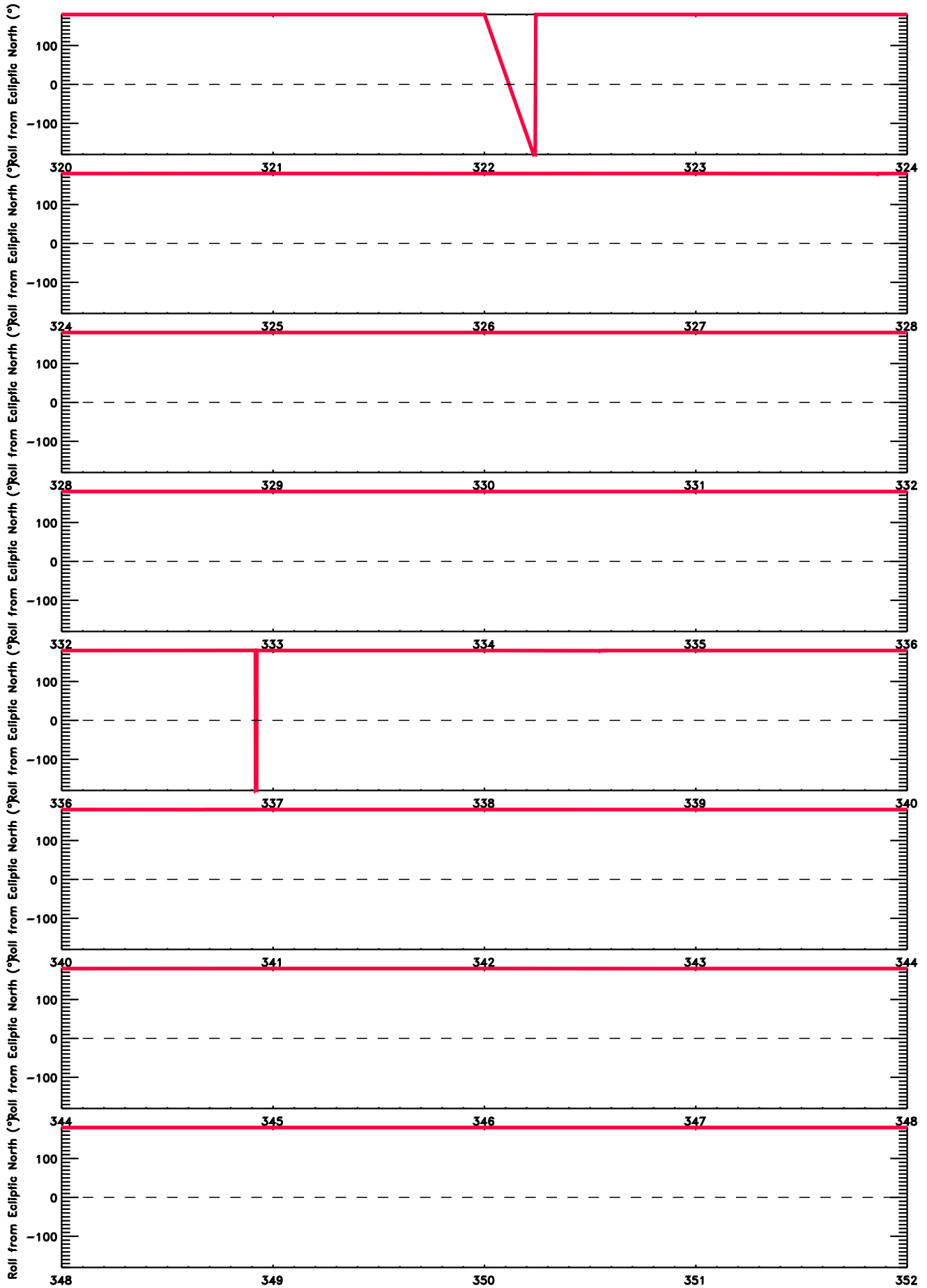
# Roll Angle from Ecliptic North (°)



Day of 2015  
Red = Ahead; Blue = Behind

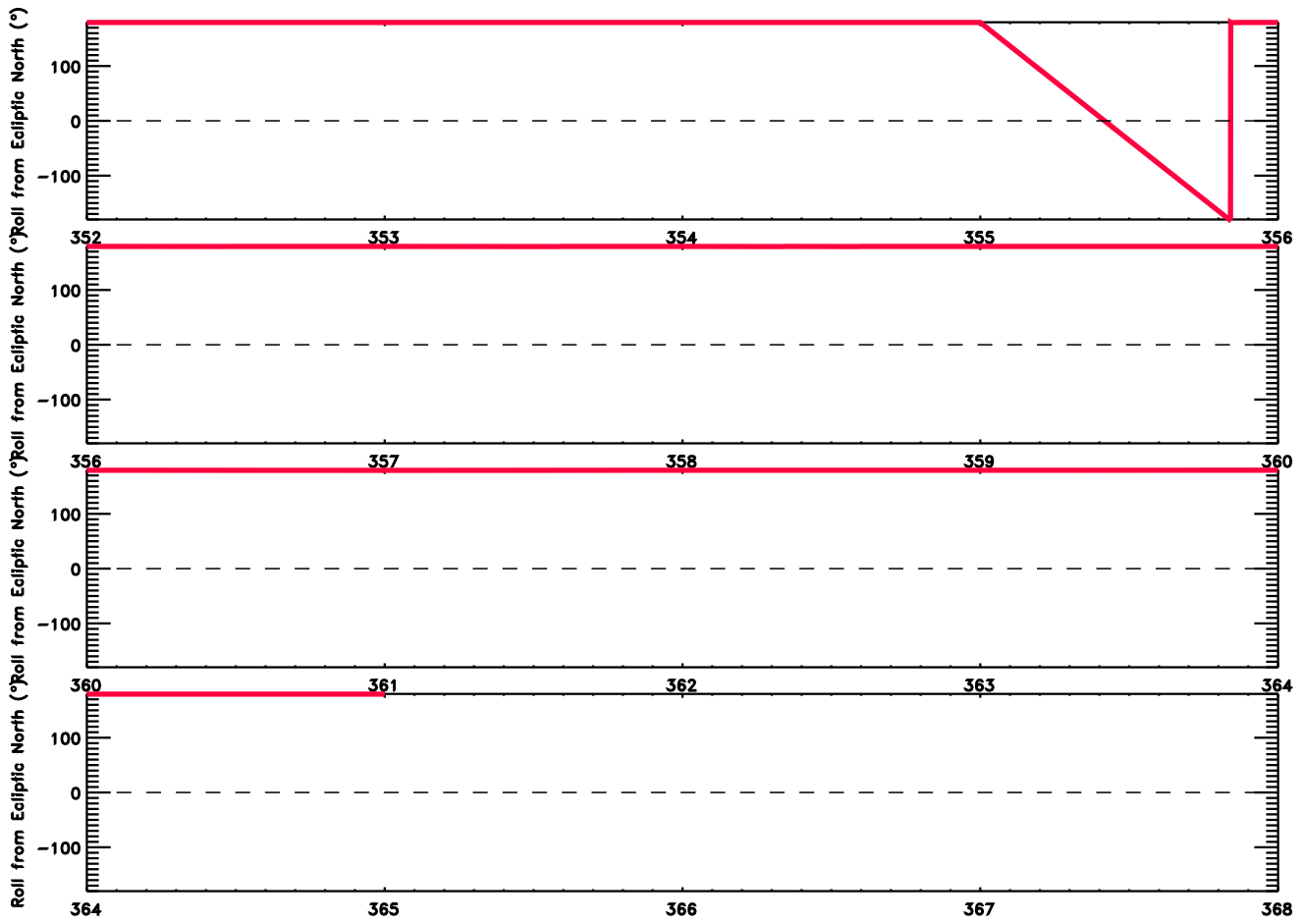


# Roll Angle from Ecliptic North (°)



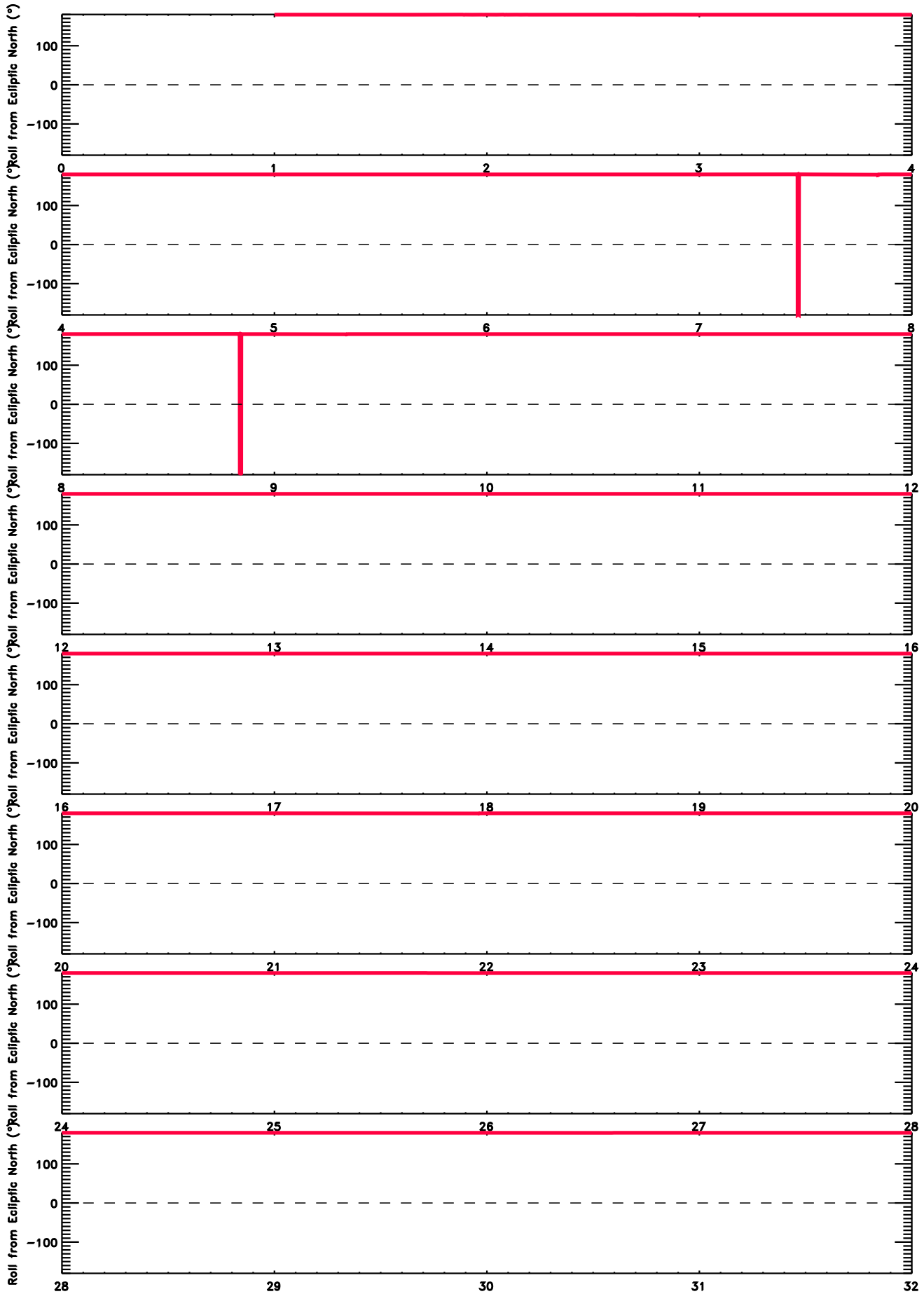
Day of 2015  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



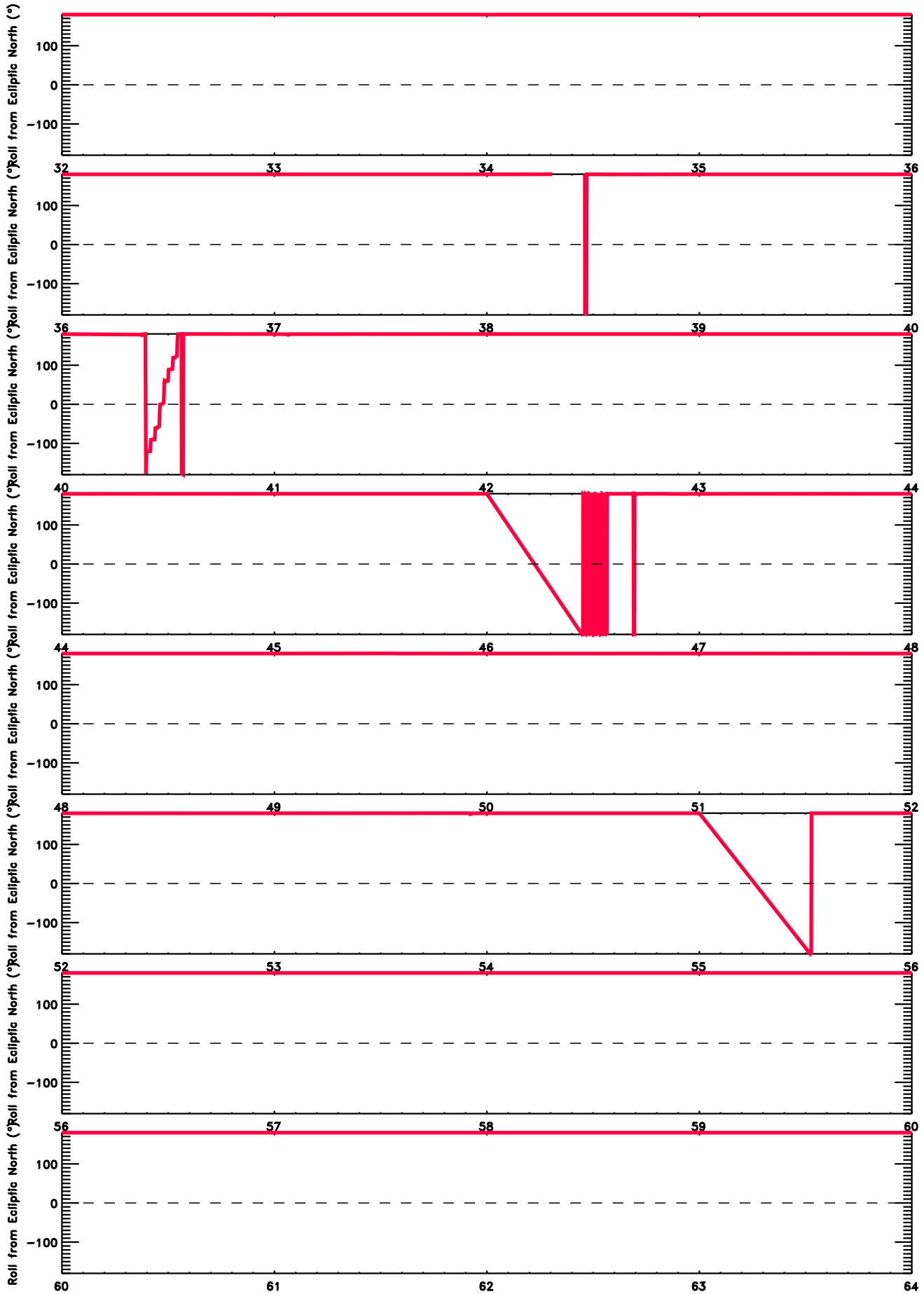
Day of 2015  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



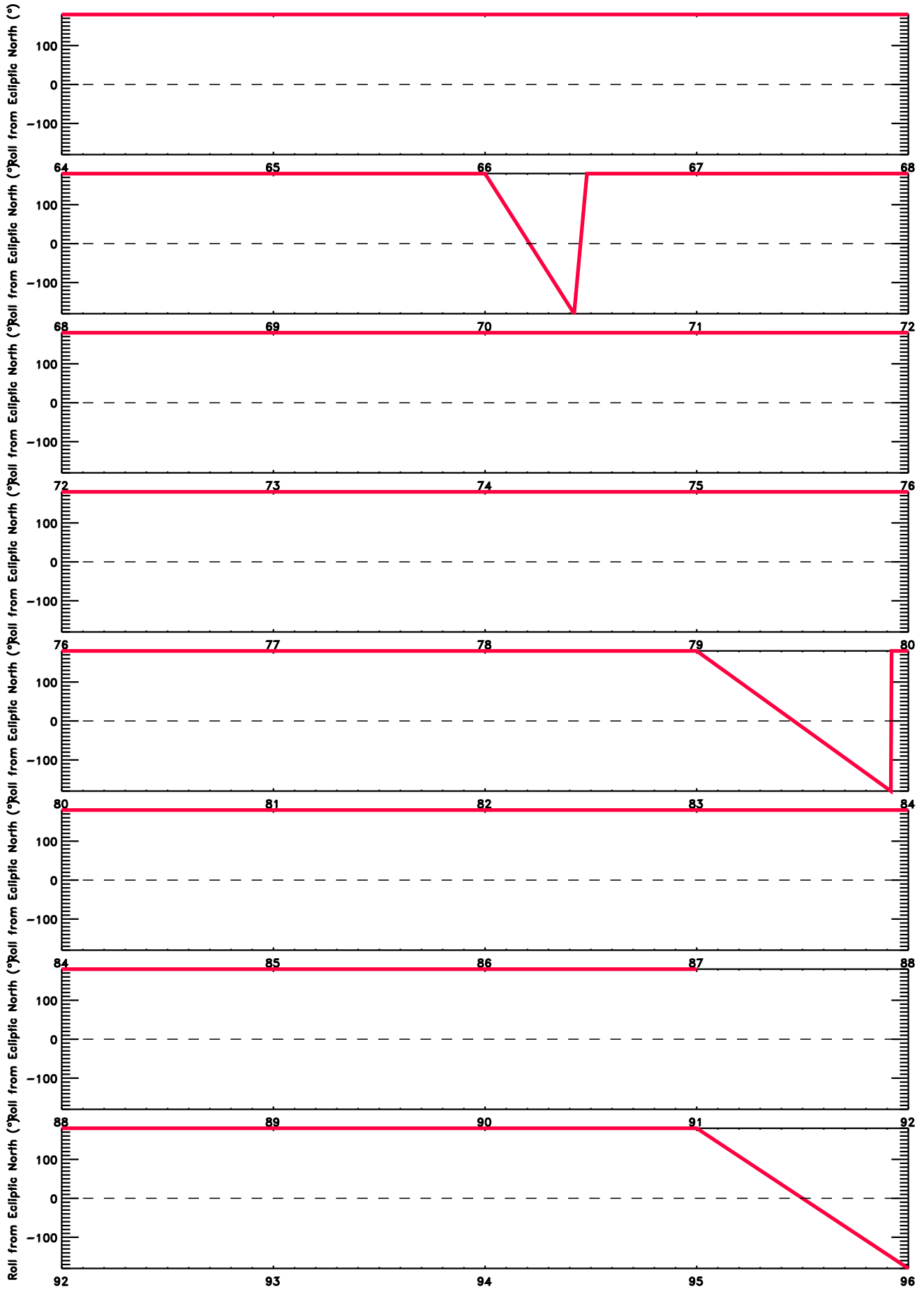
Day of 2016  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



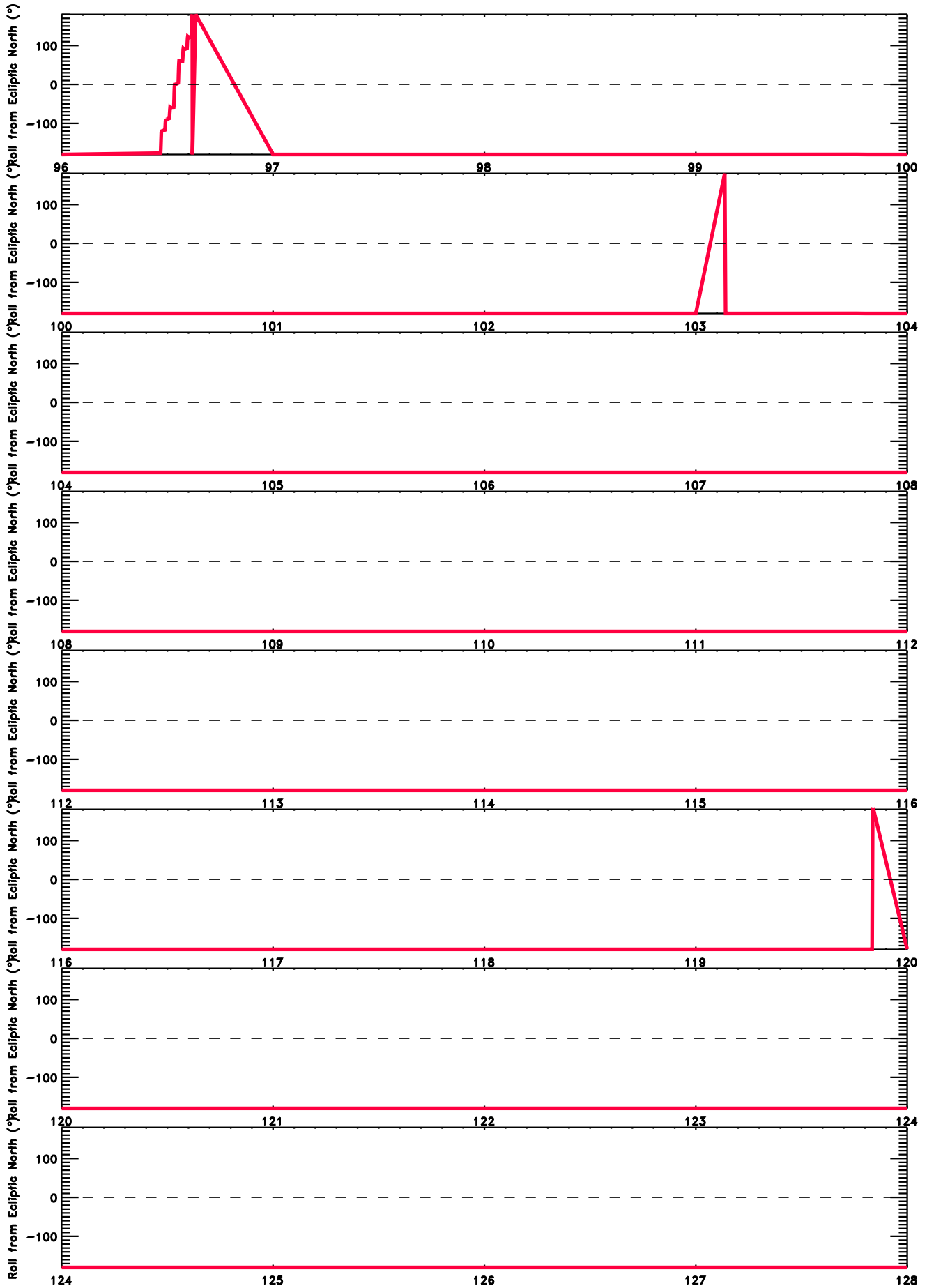
Day of 2016  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



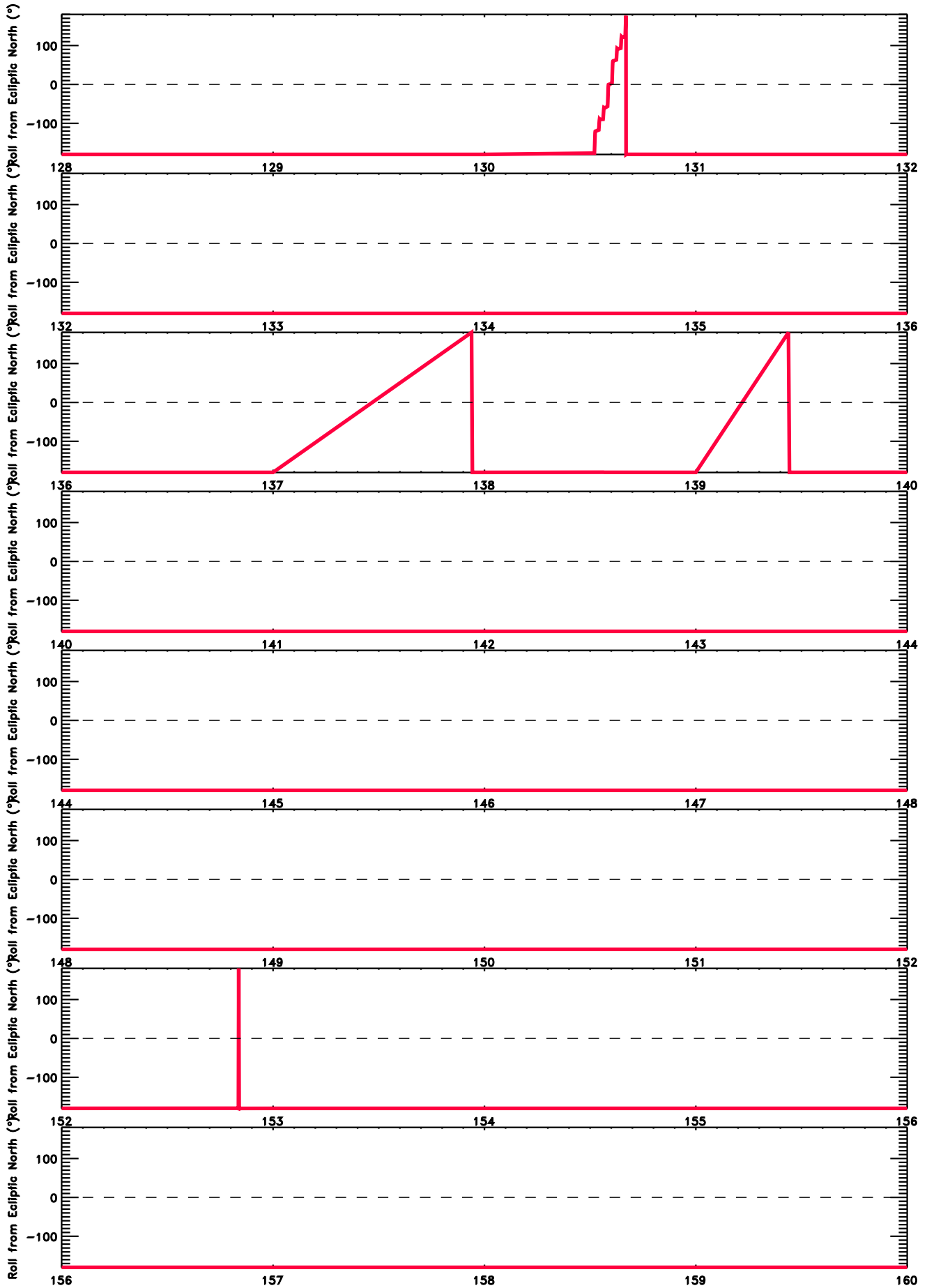
Day of 2016  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



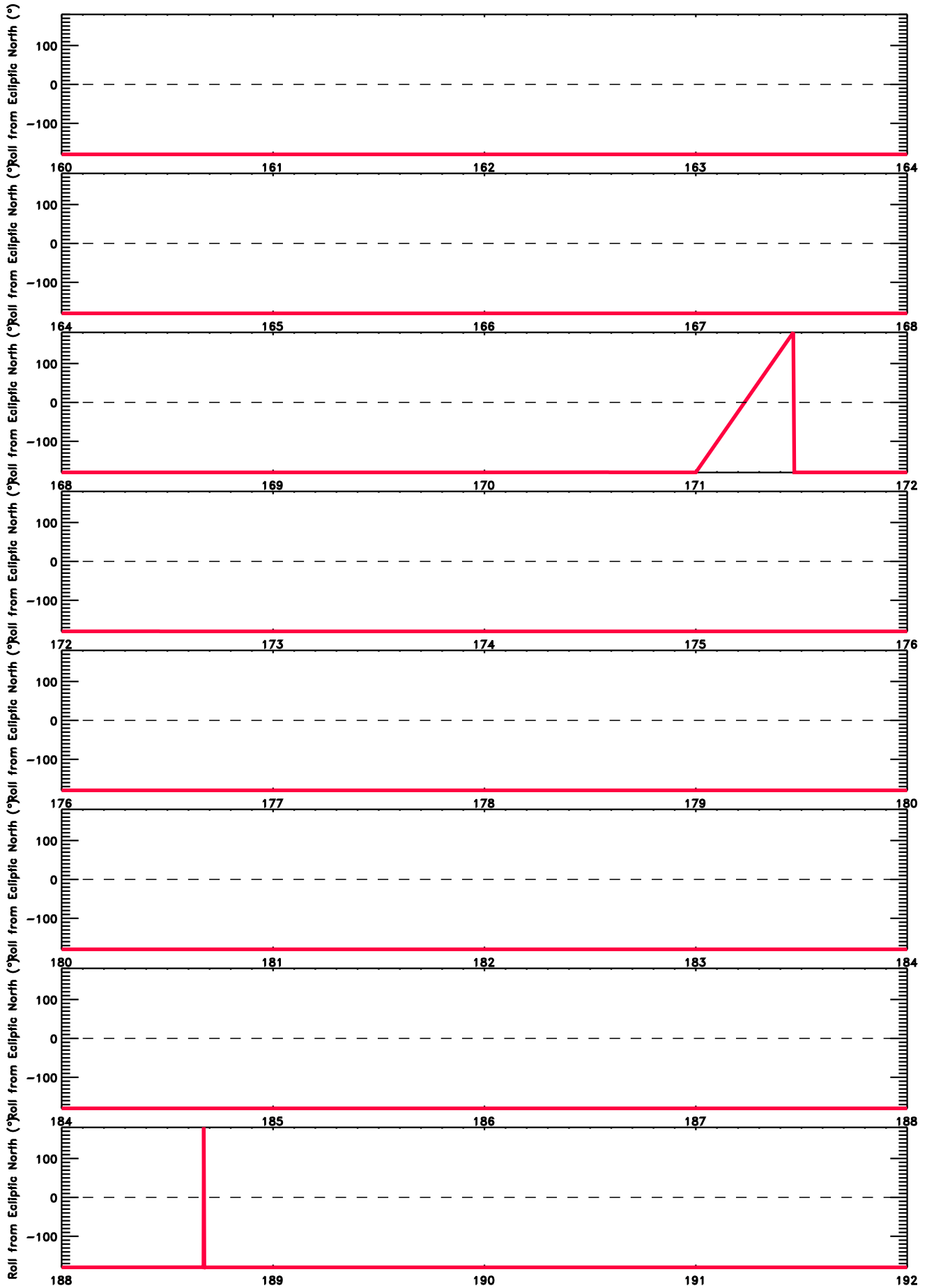
Day of 2016  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2016  
Red = Ahead; Blue = Behind

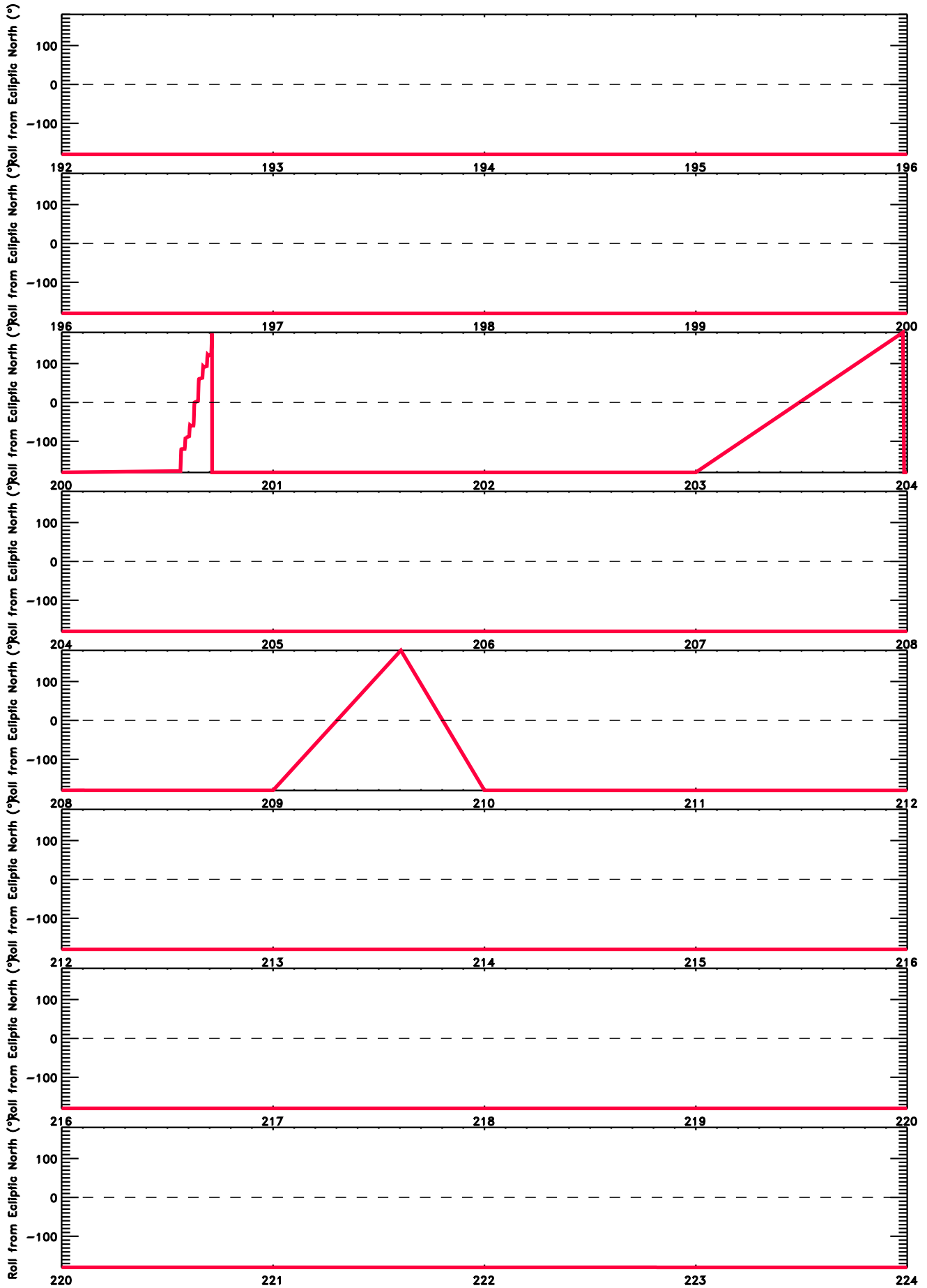
# Roll Angle from Ecliptic North (°)



Day of 2016  
Red = Ahead; Blue = Behind

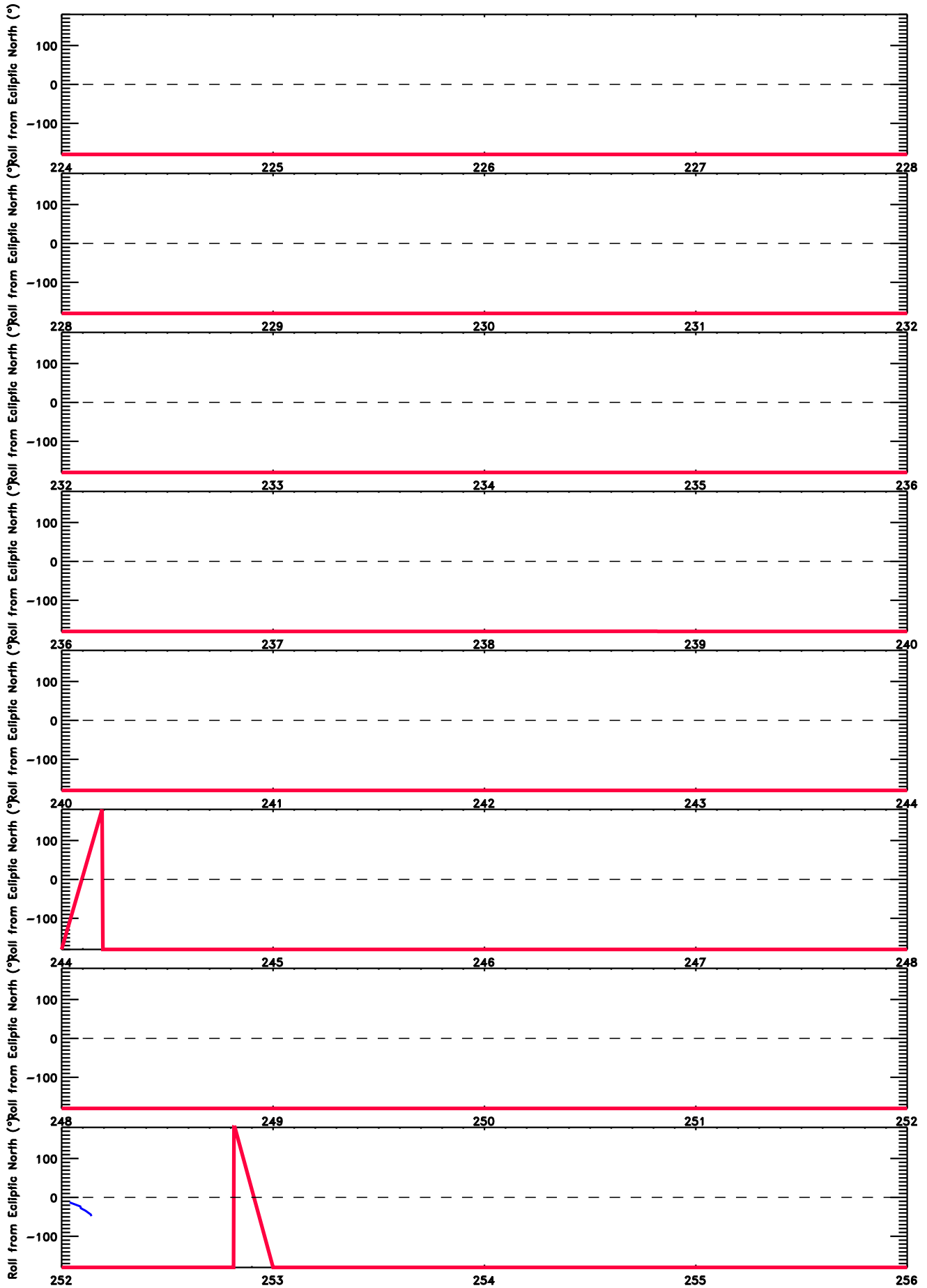


# Roll Angle from Ecliptic North ( $^{\circ}$ )



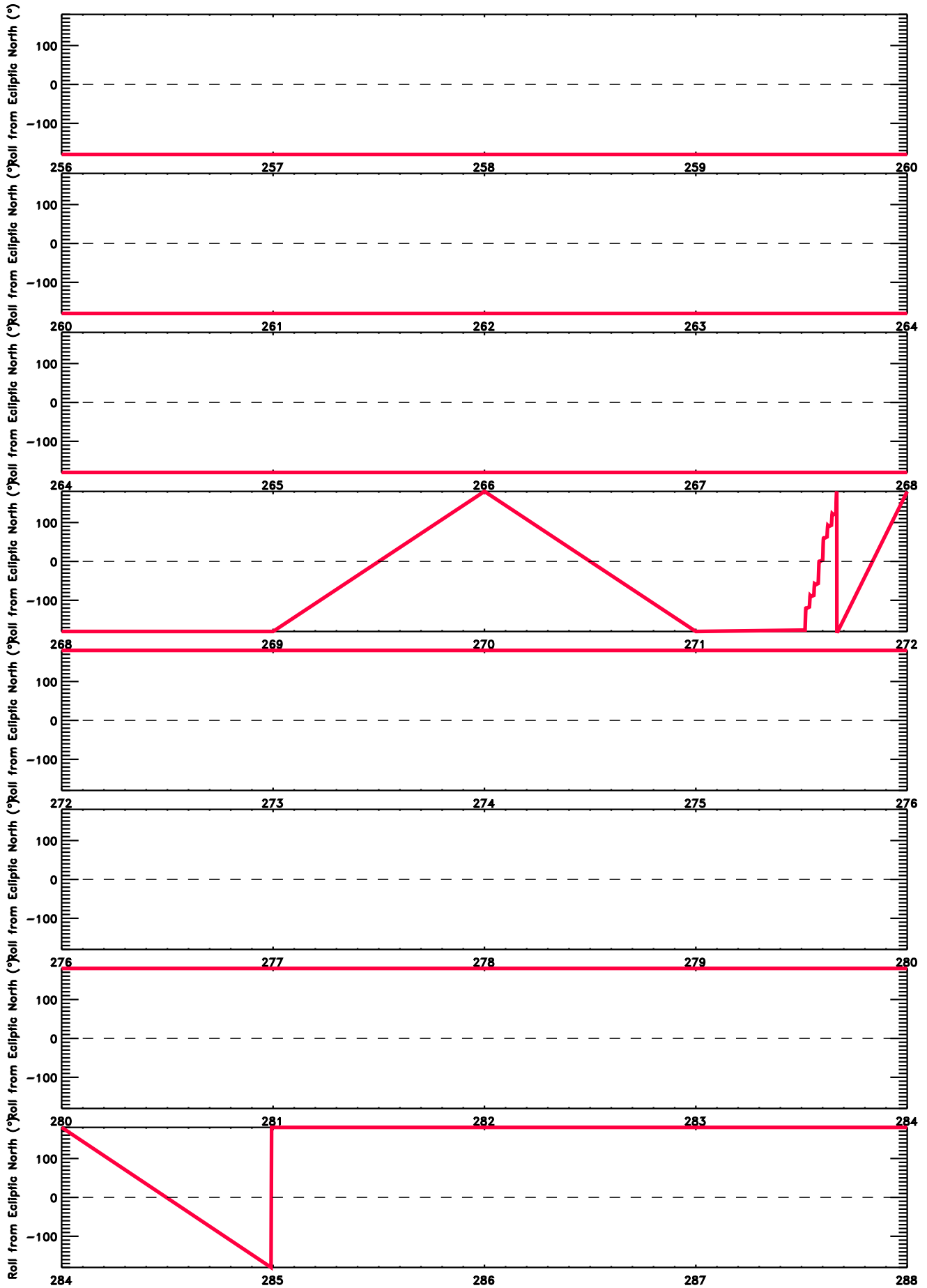
Day of 2016  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



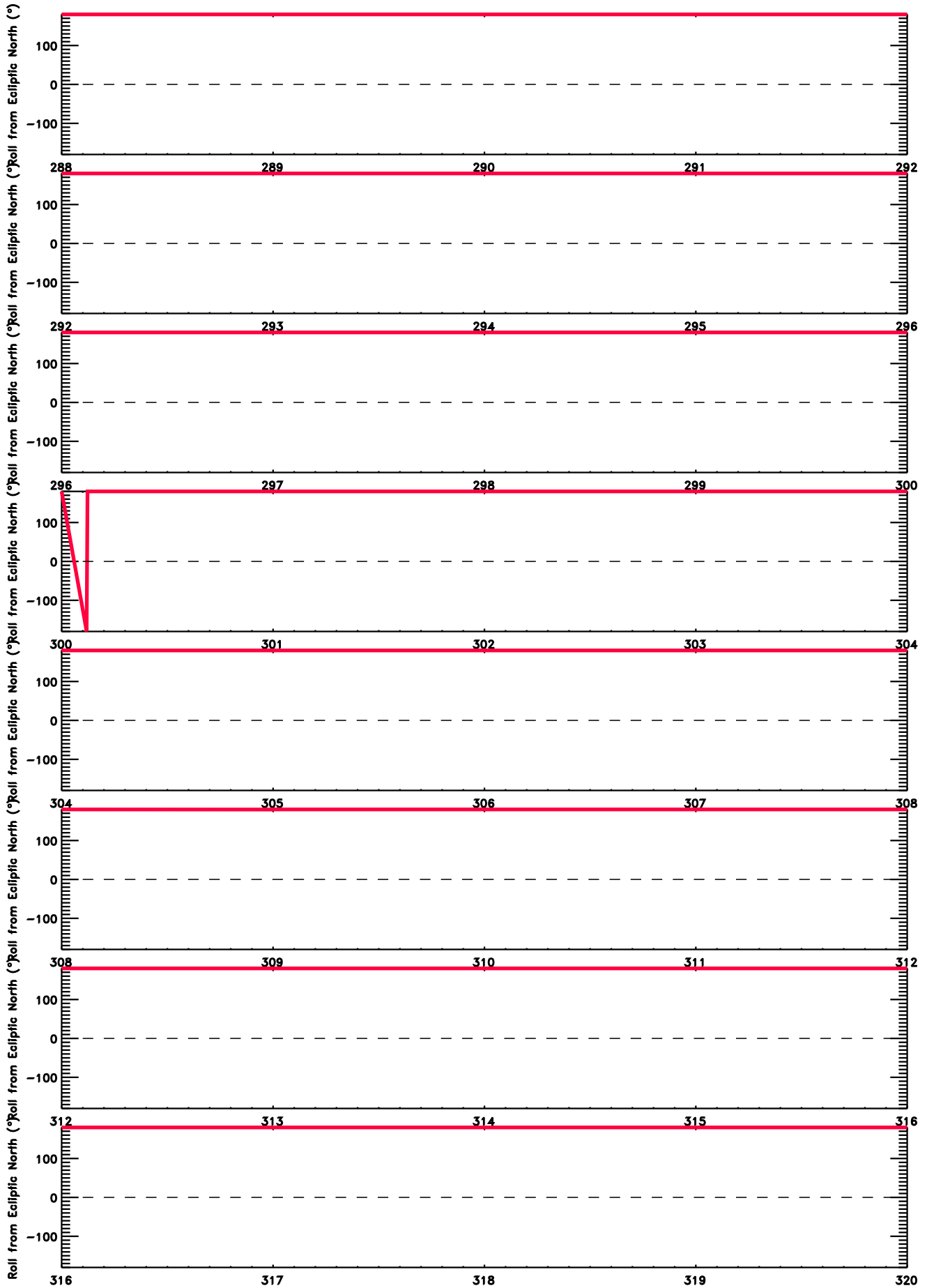
Day of 2016  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



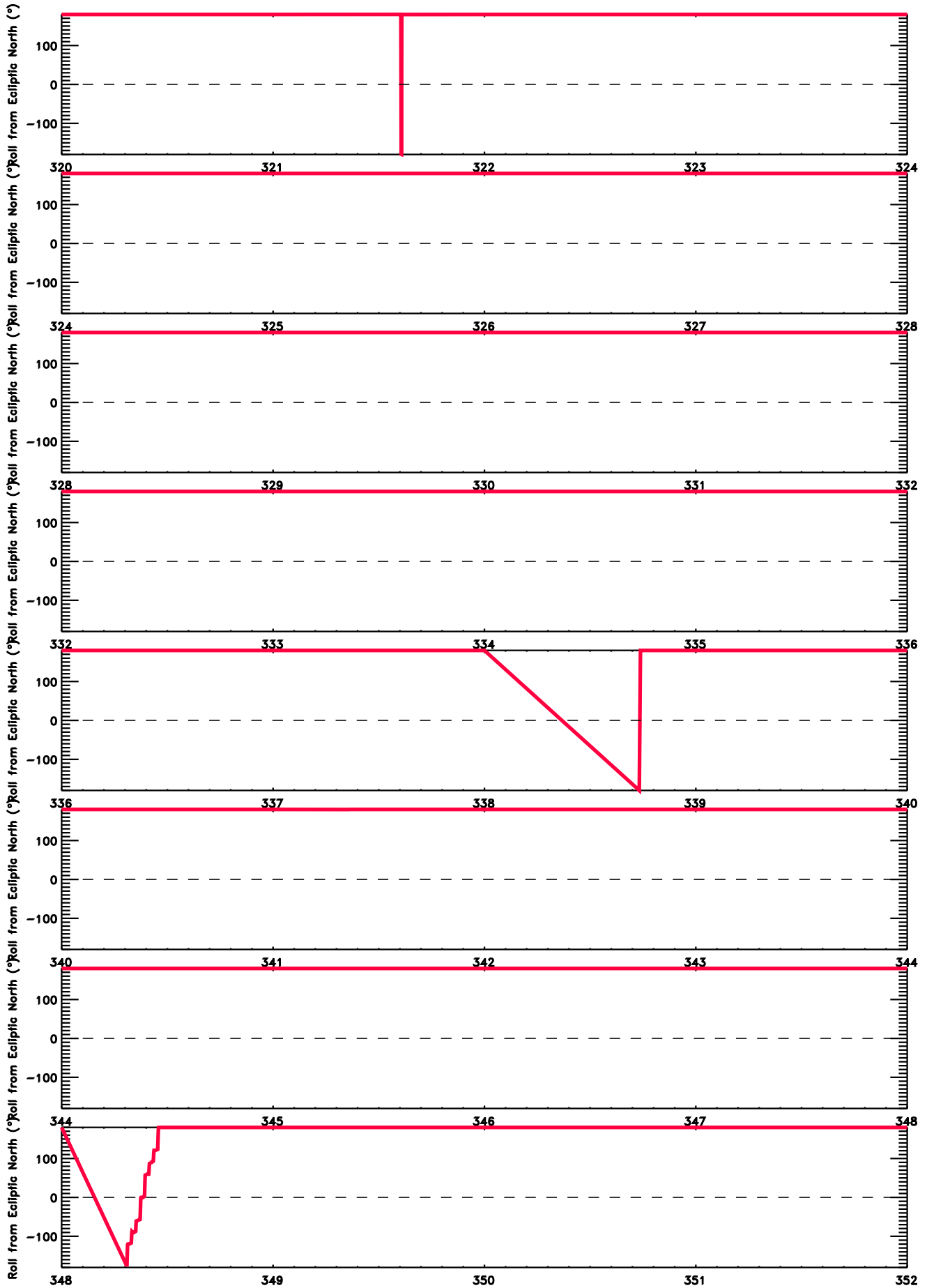
Day of 2016  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



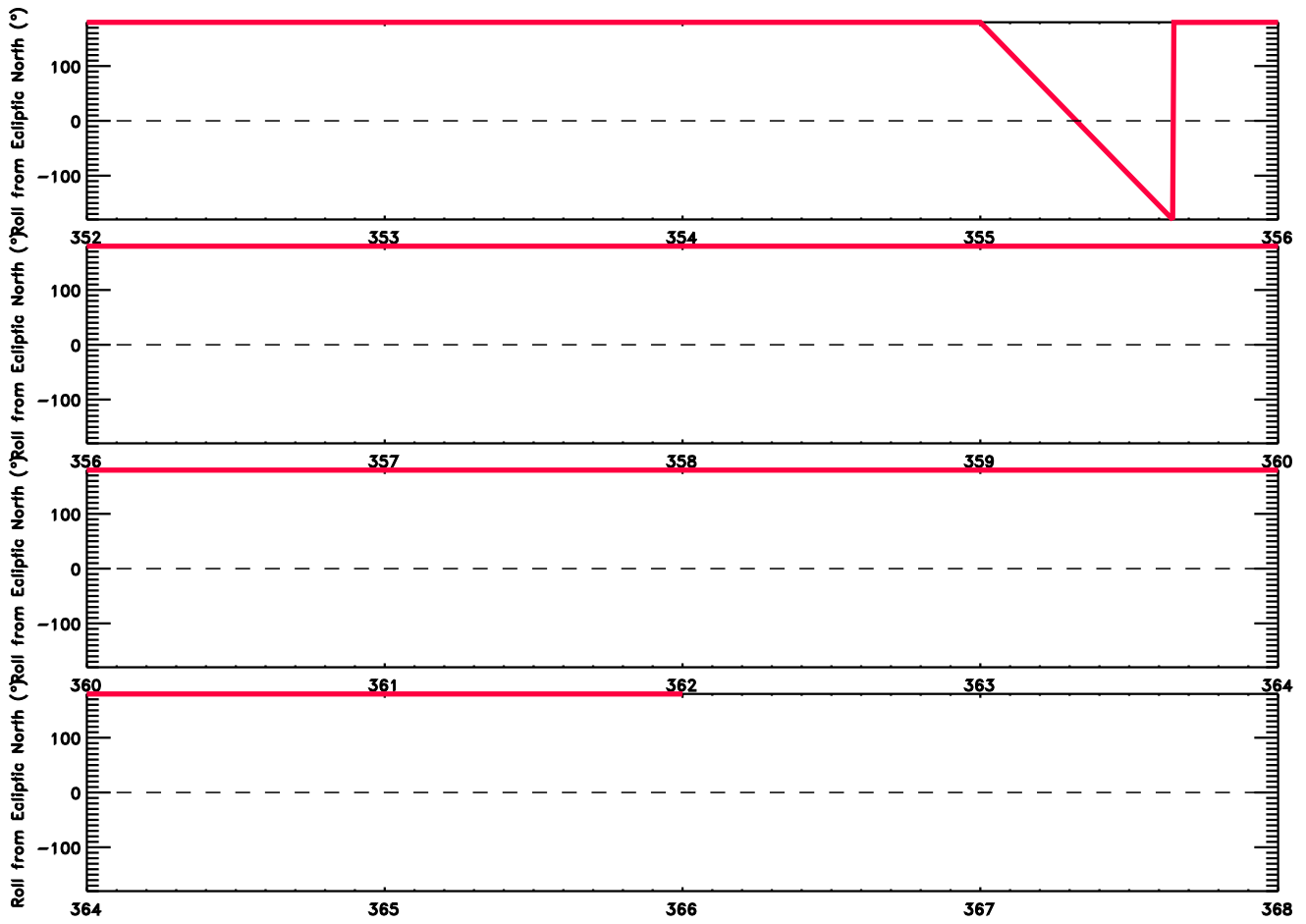
Day of 2016  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



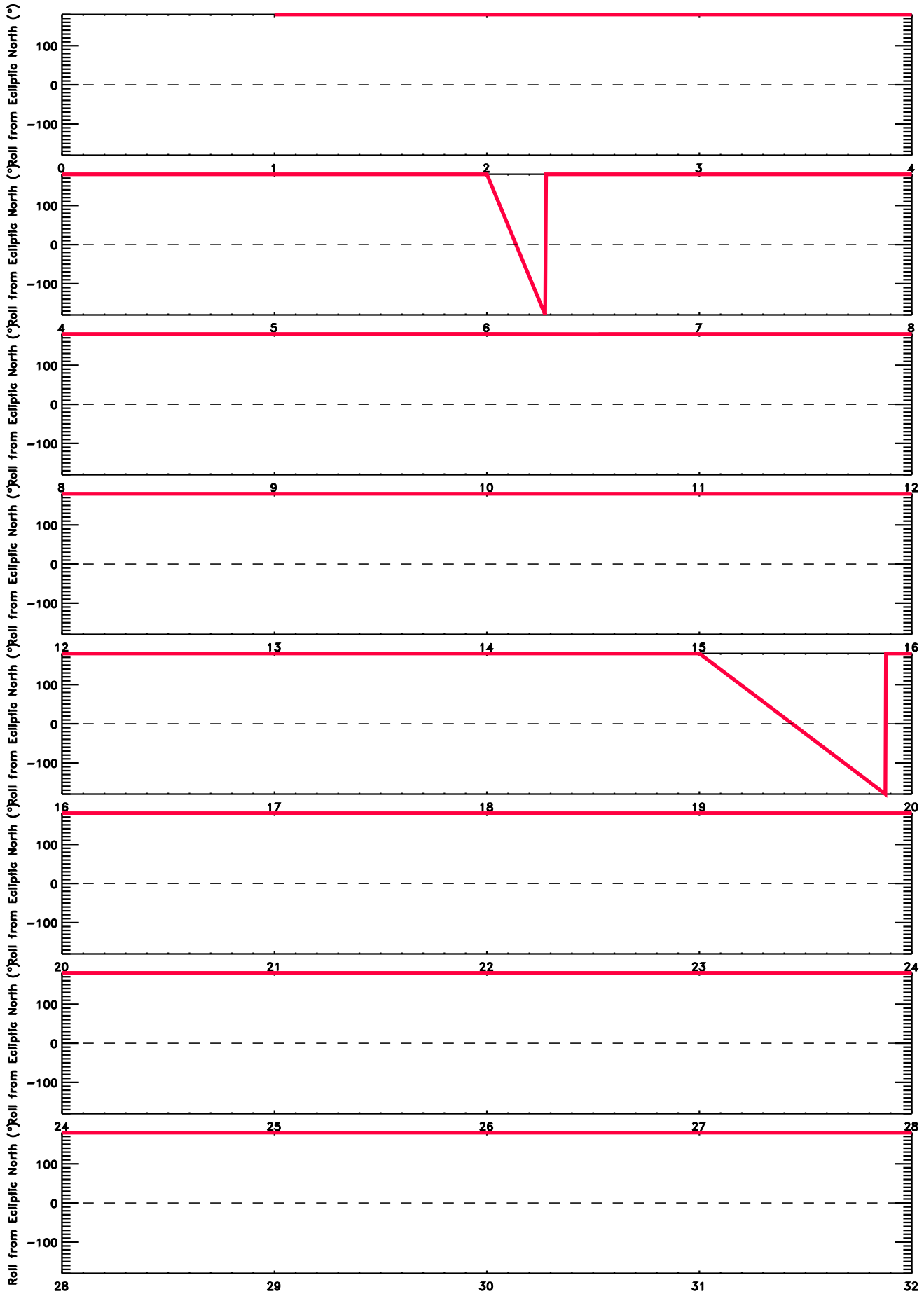
Day of 2016  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



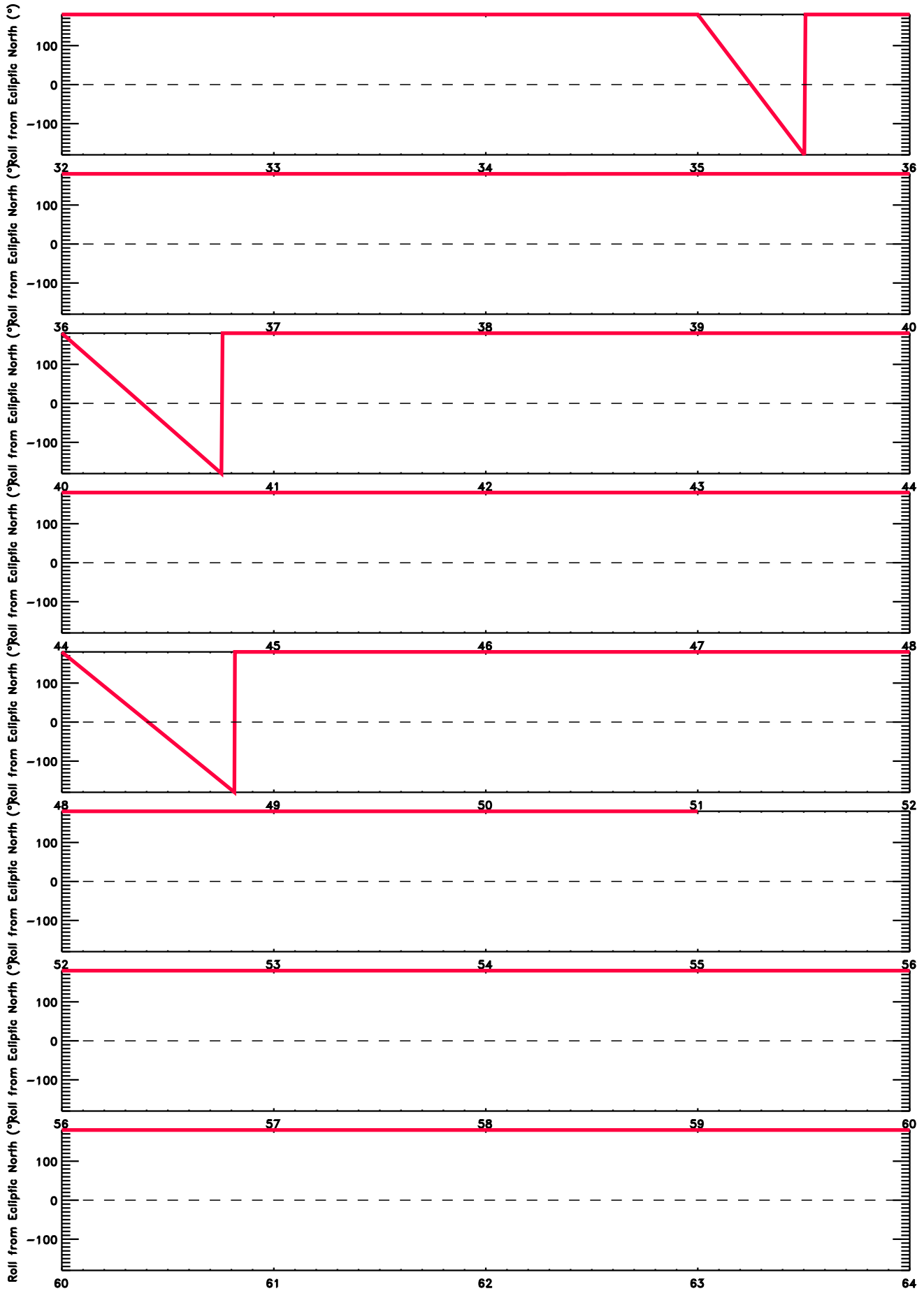
Day of 2016  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2017  
Red = Ahead; Blue = Behind

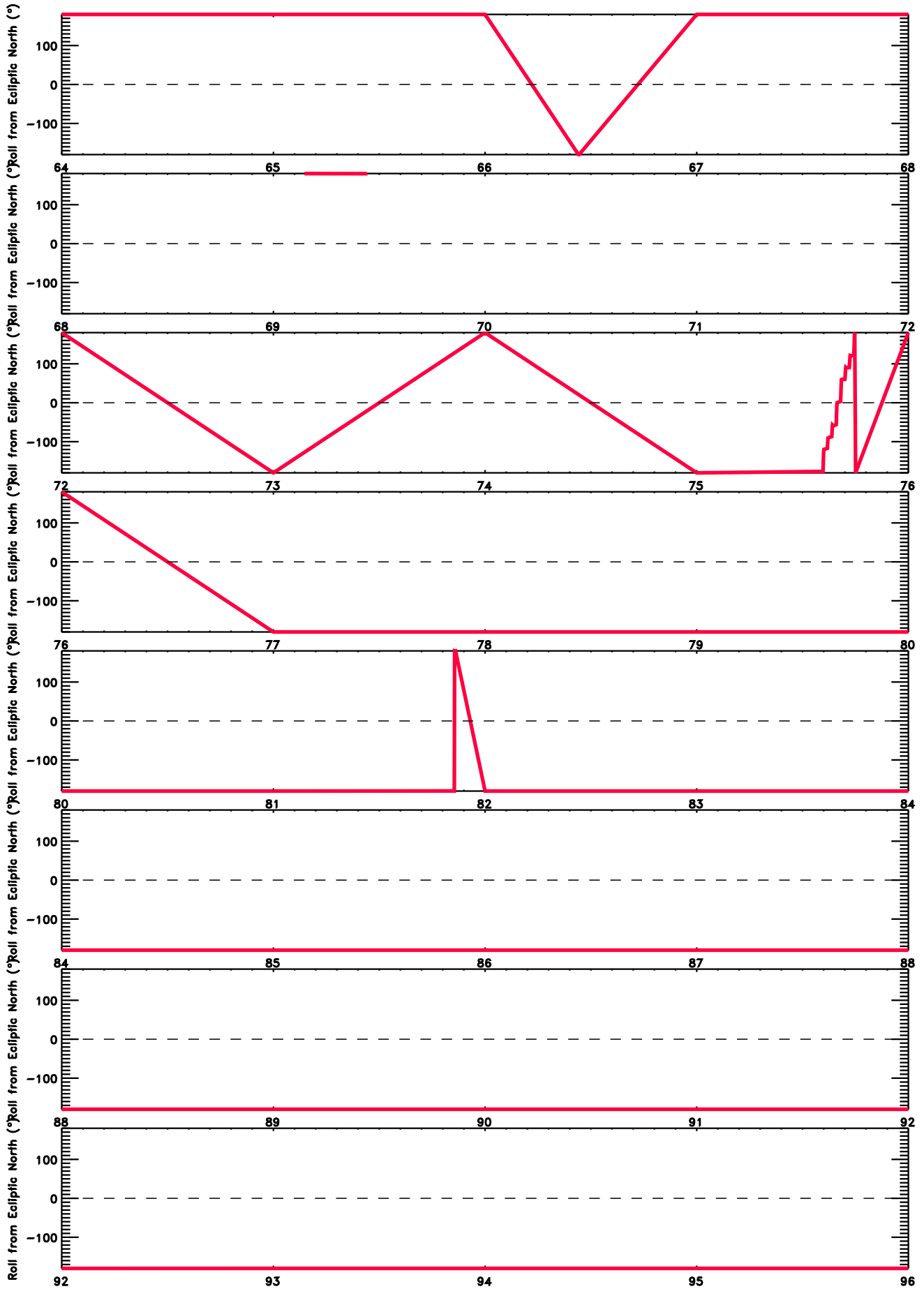
# Roll Angle from Ecliptic North (°)



Day of 2017  
Red = Ahead; Blue = Behind

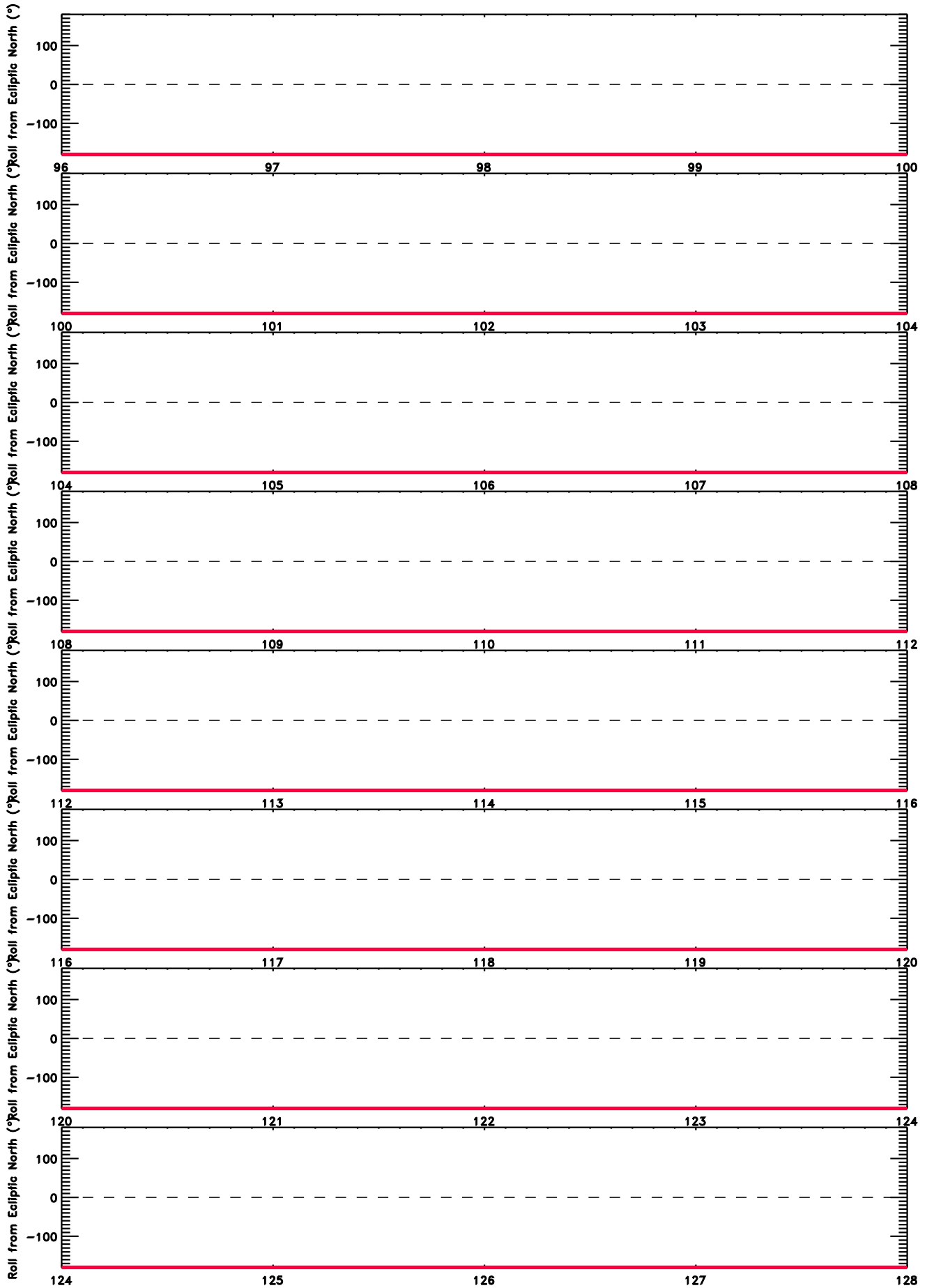


# Roll Angle from Ecliptic North (°)



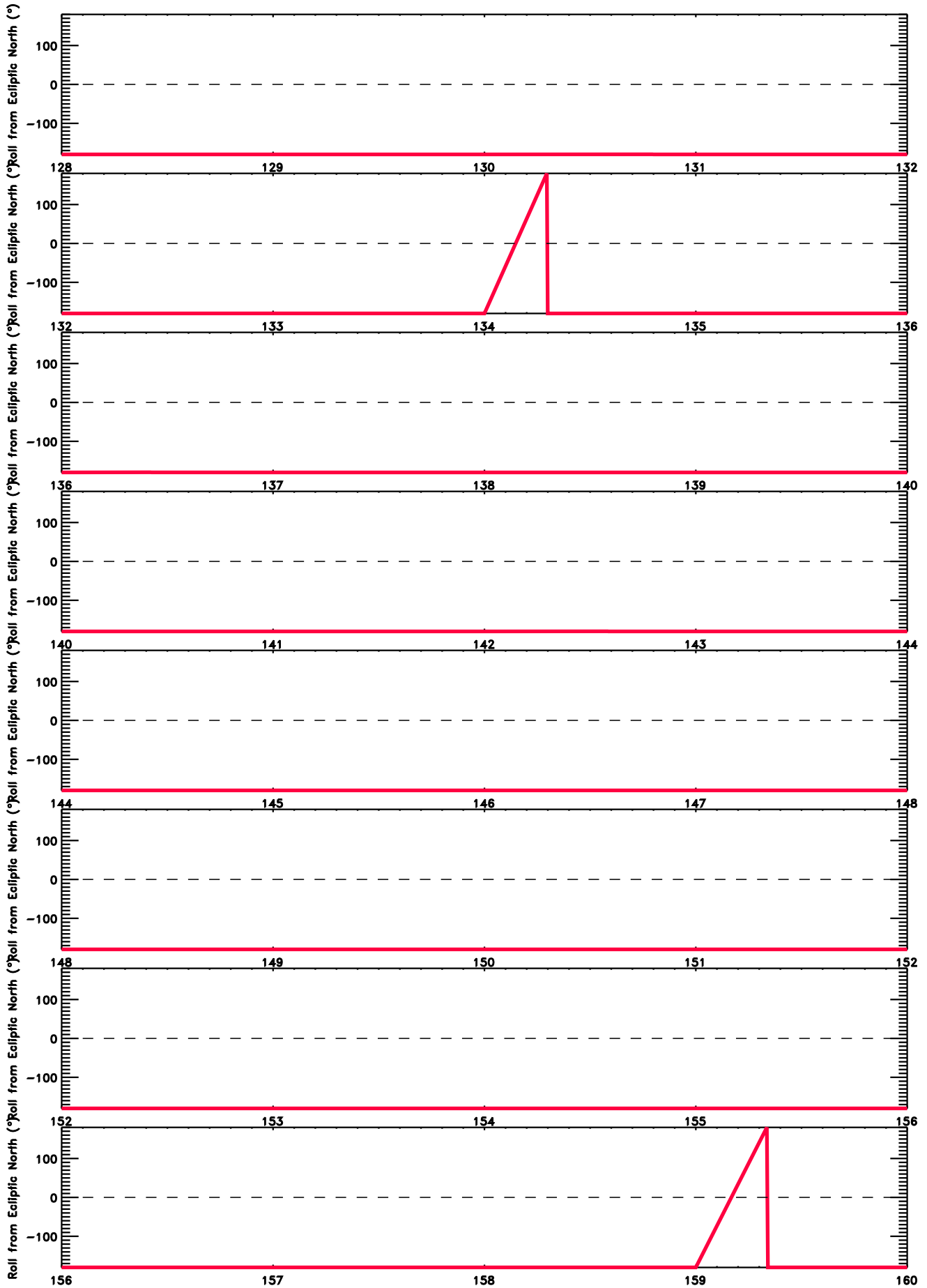
Day of 2017  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



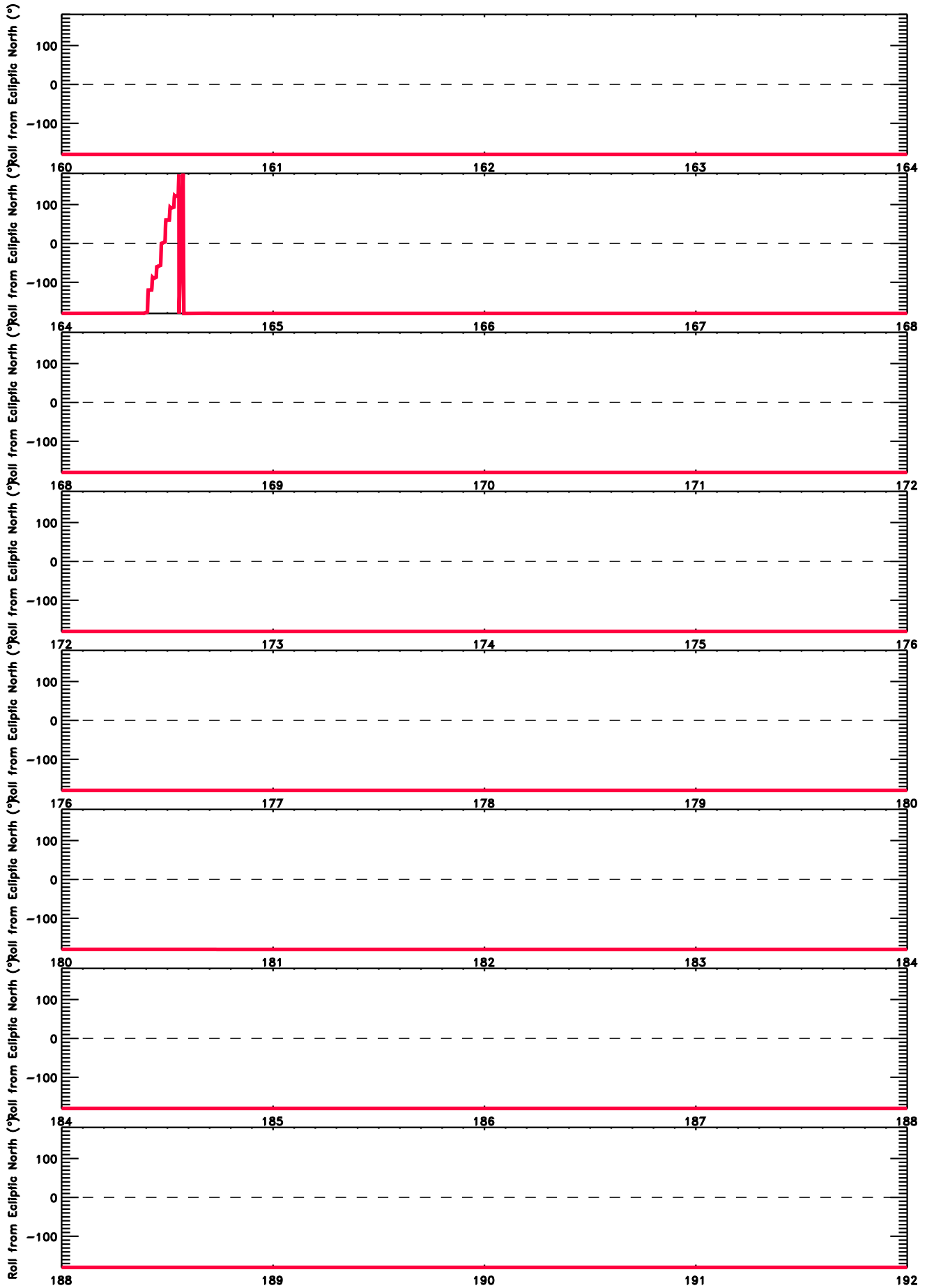
Day of 2017  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



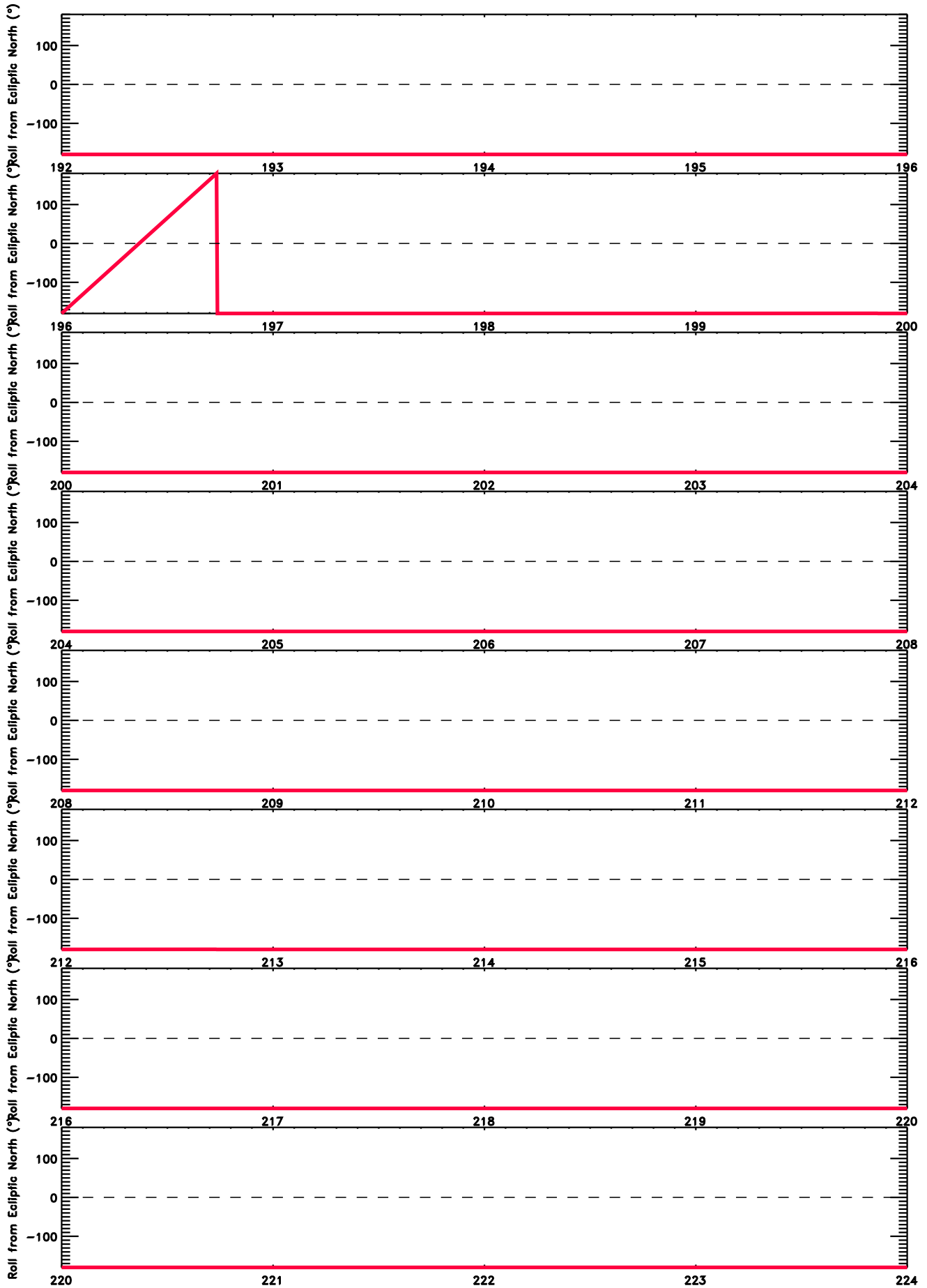
Day of 2017  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



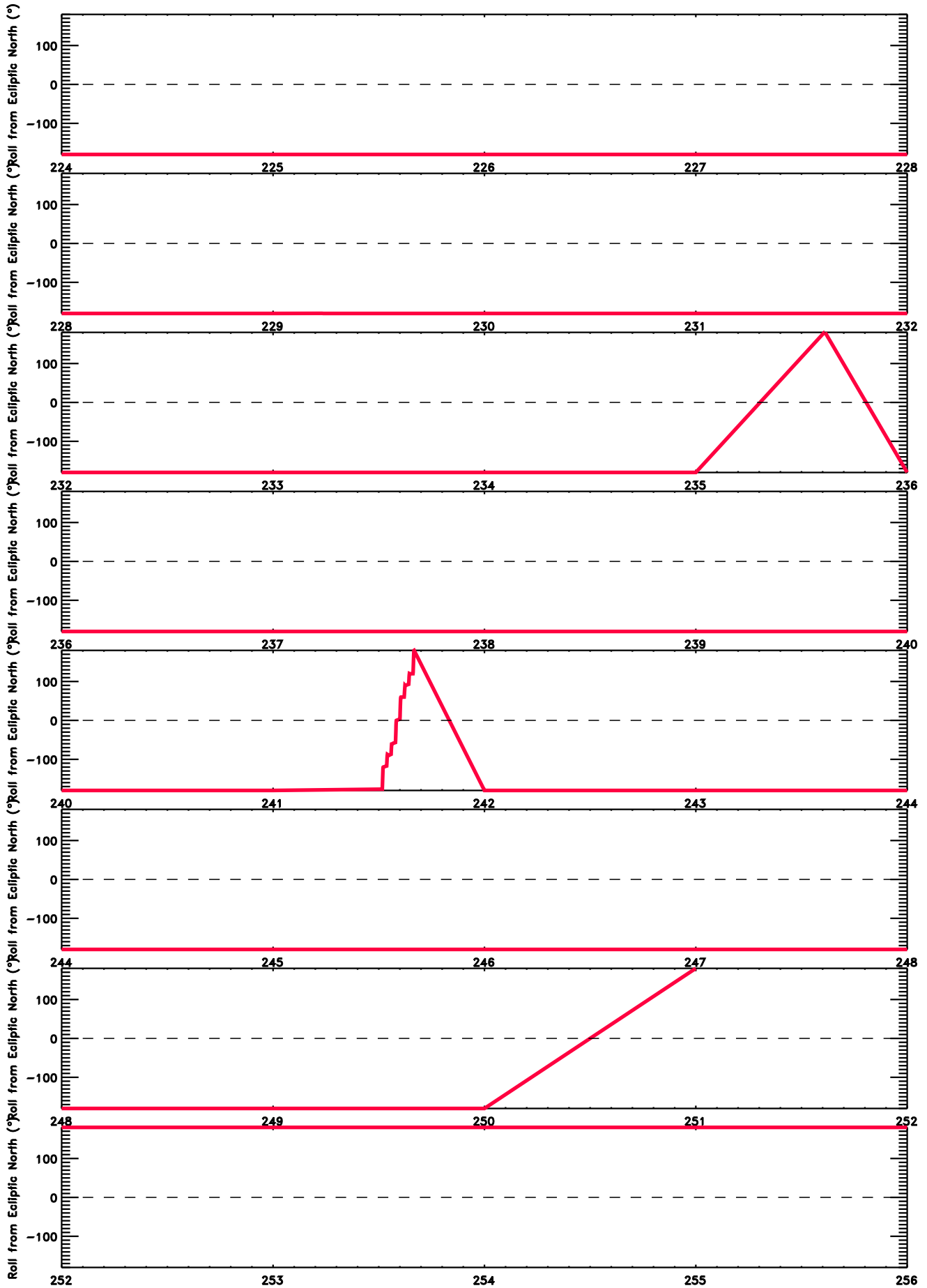
Day of 2017  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



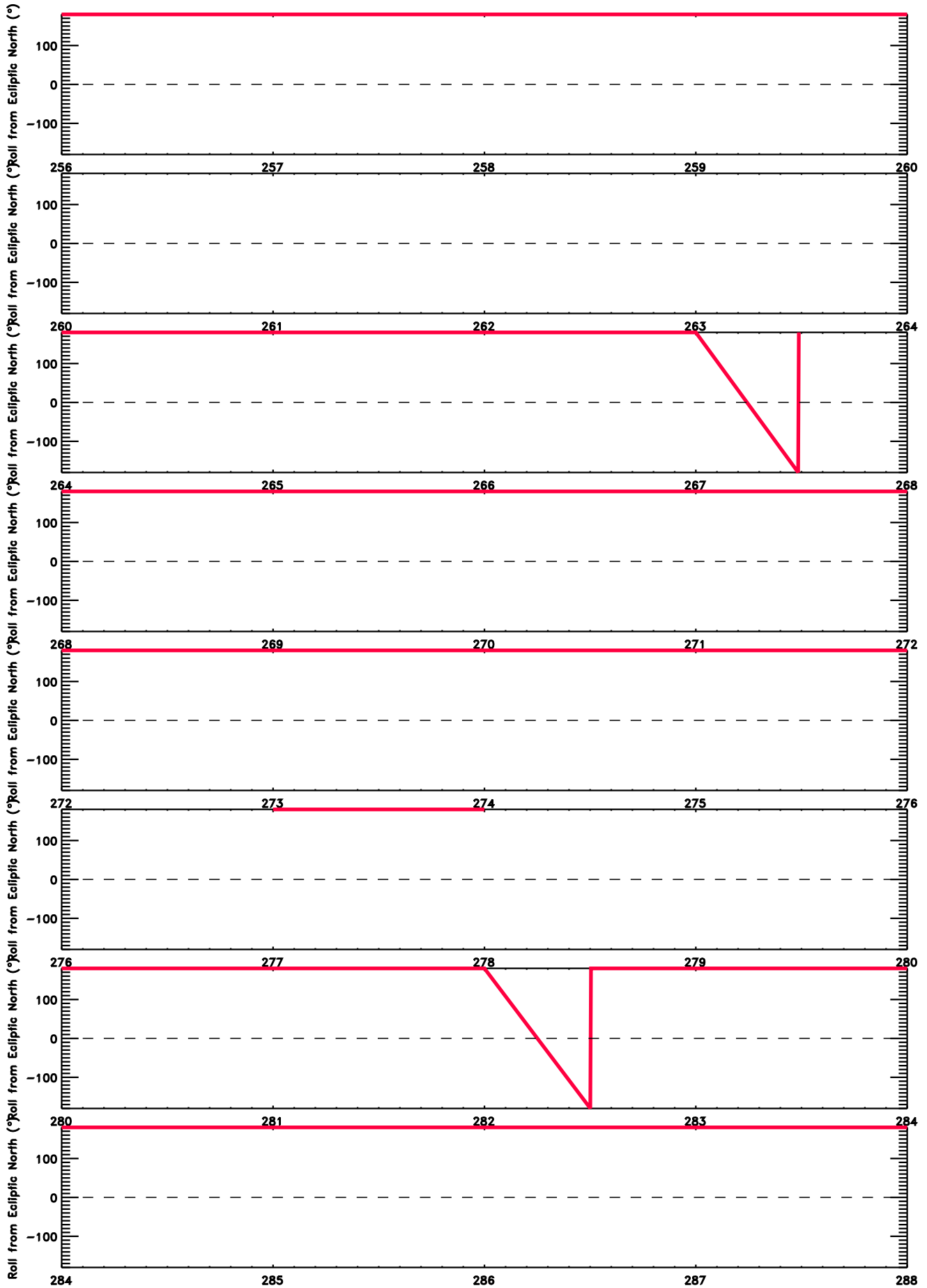
Day of 2017  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



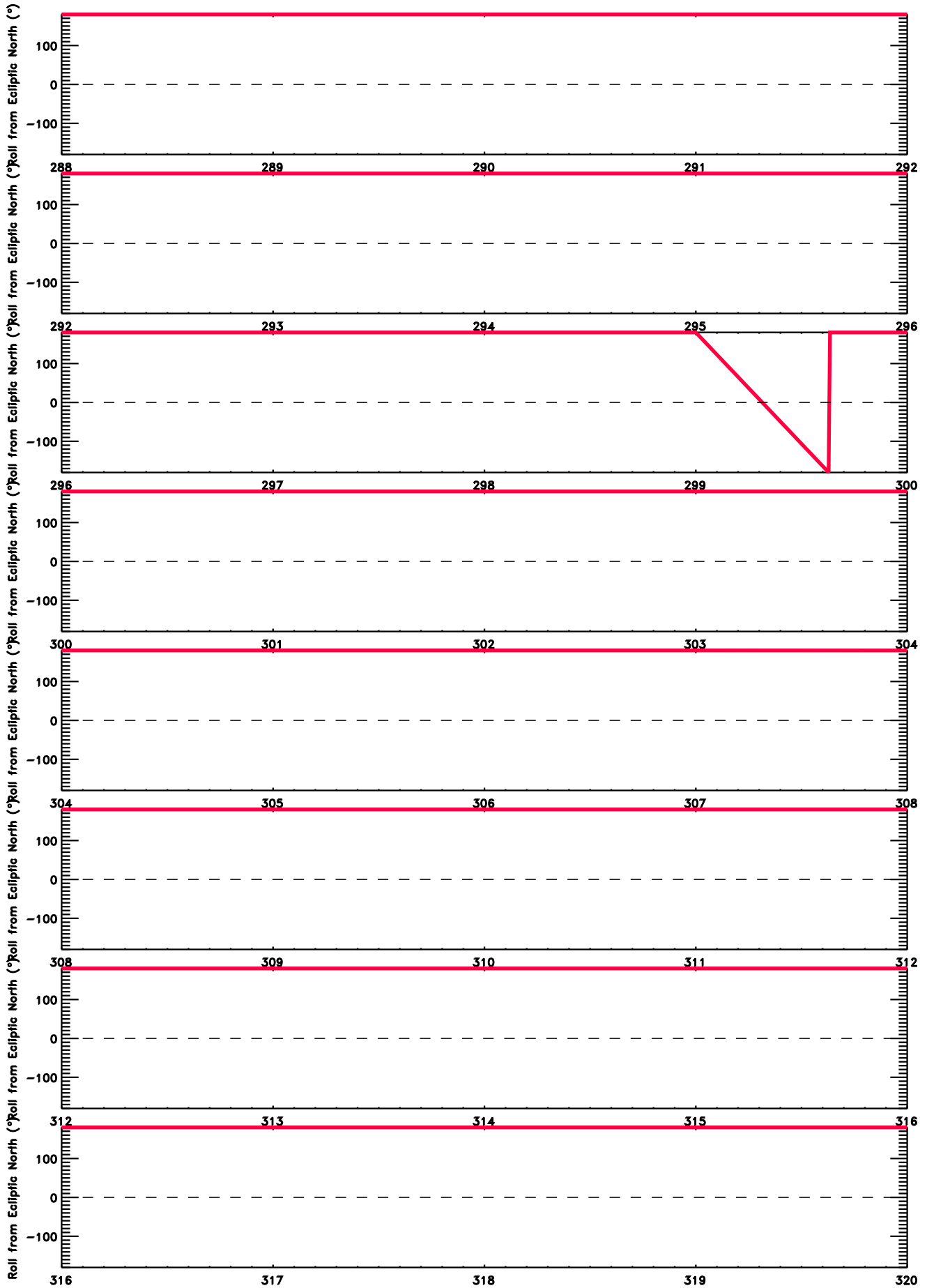
Day of 2017  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2017  
Red = Ahead; Blue = Behind

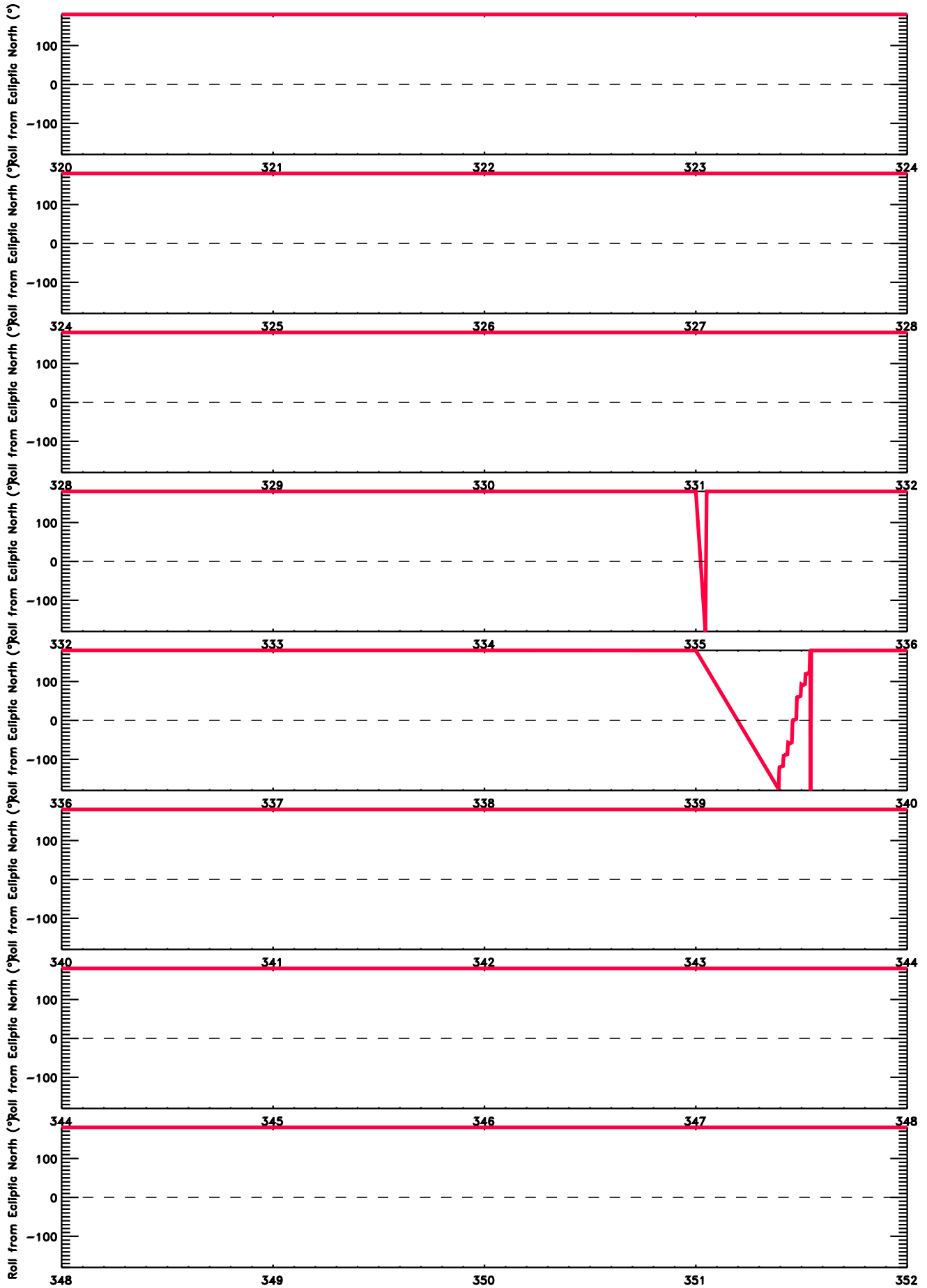
# Roll Angle from Ecliptic North (°)



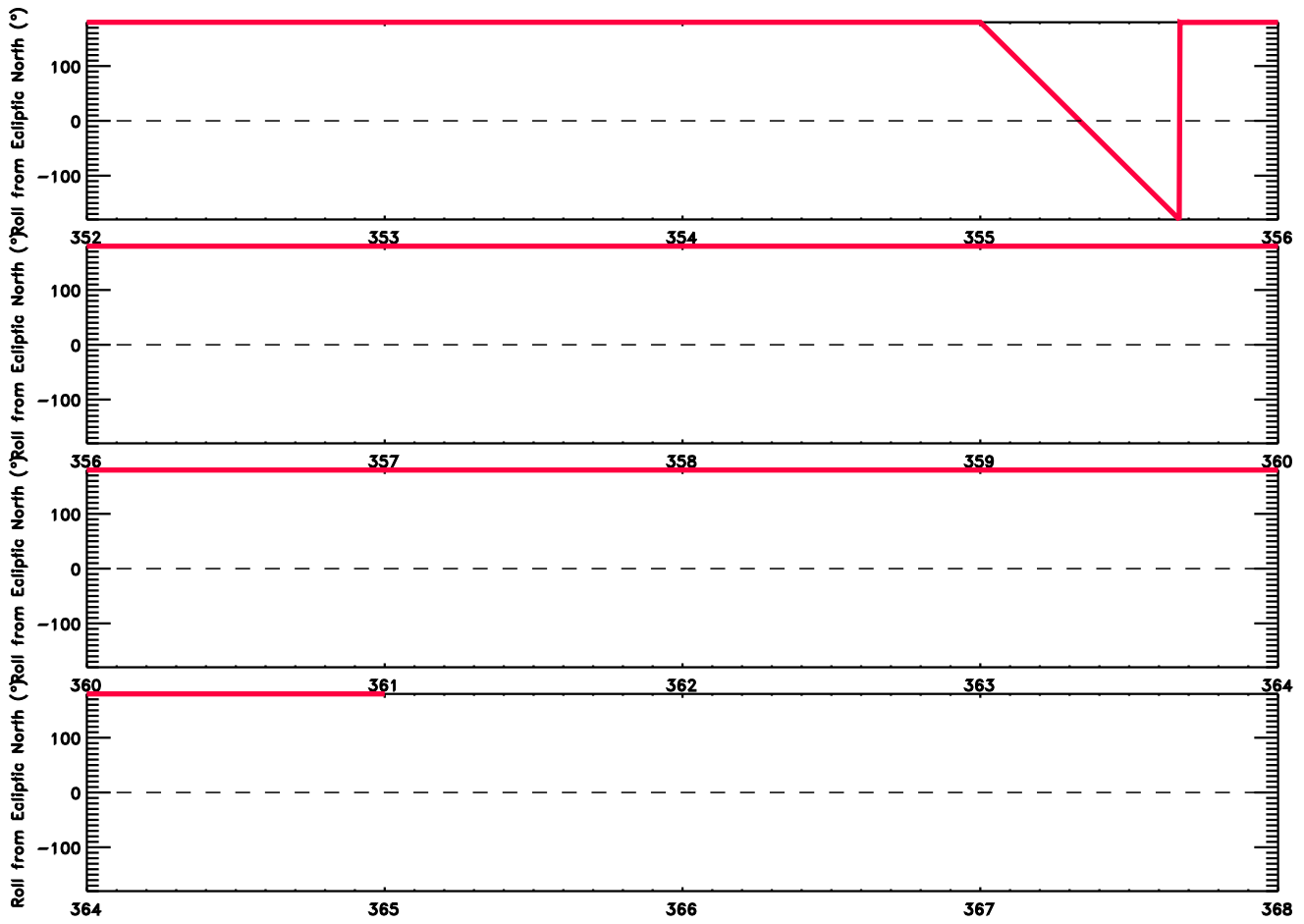
Day of 2017  
Red = Ahead; Blue = Behind



# Roll Angle from Ecliptic North (°)

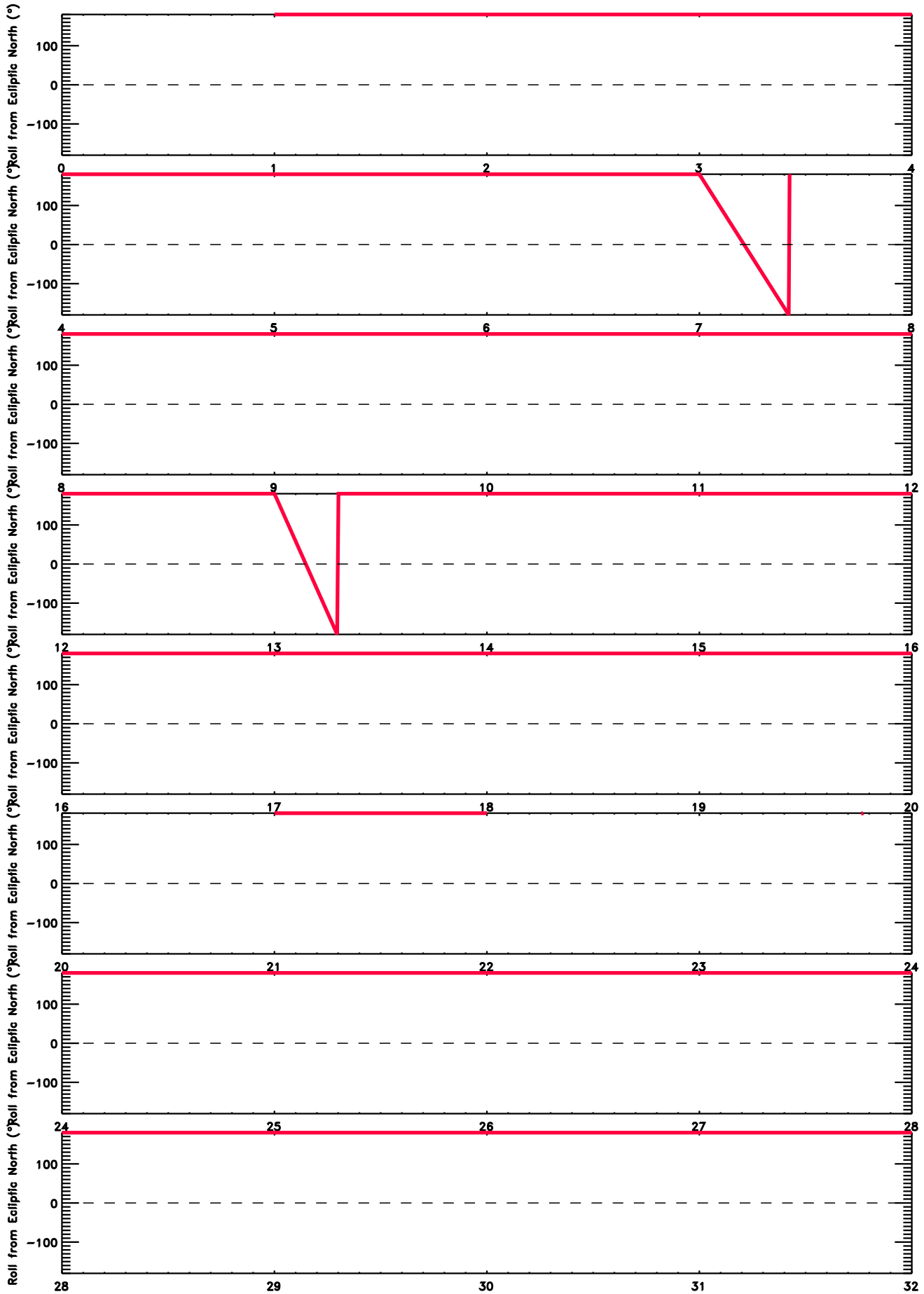


# Roll Angle from Ecliptic North (°)



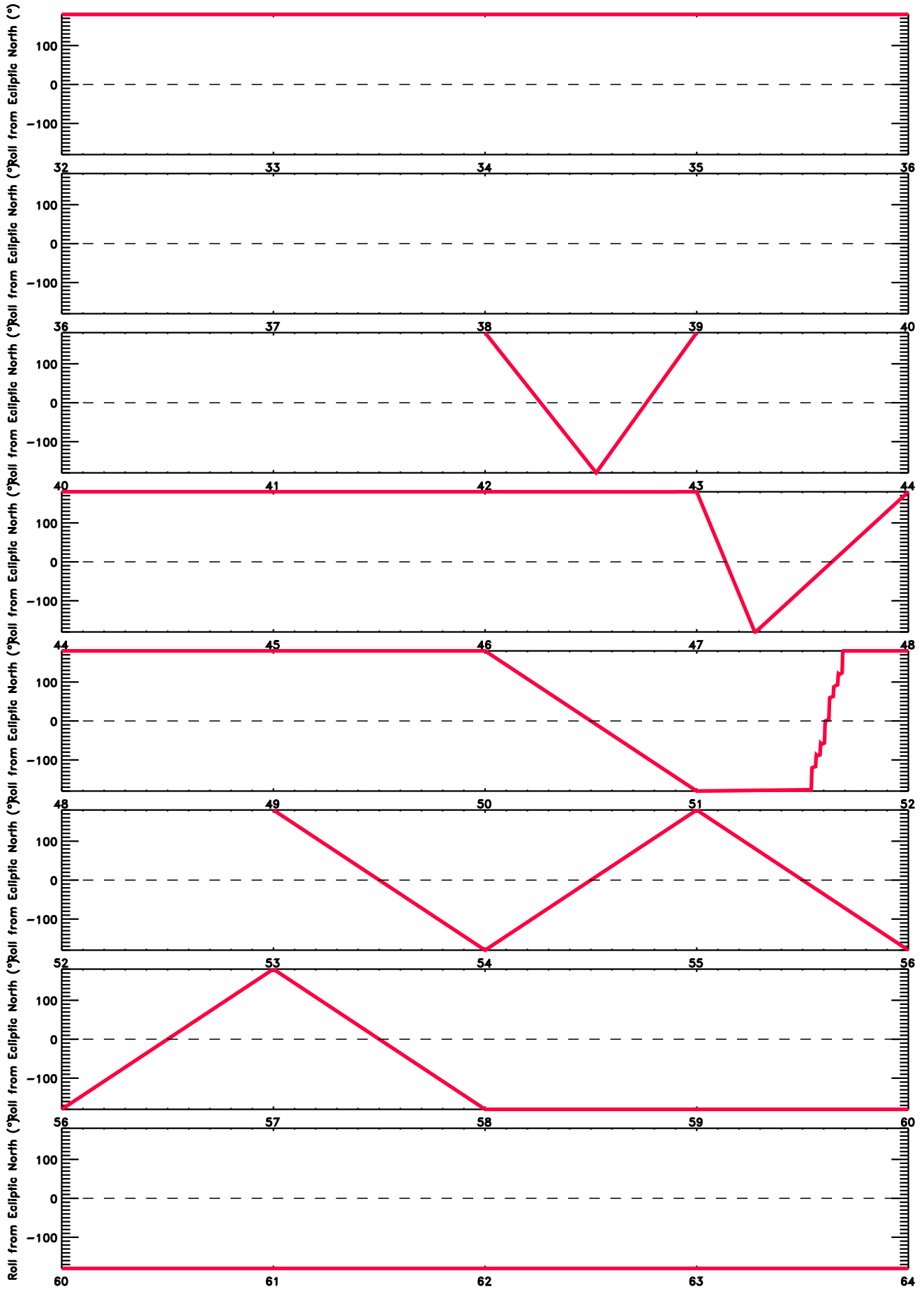
Day of 2017  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



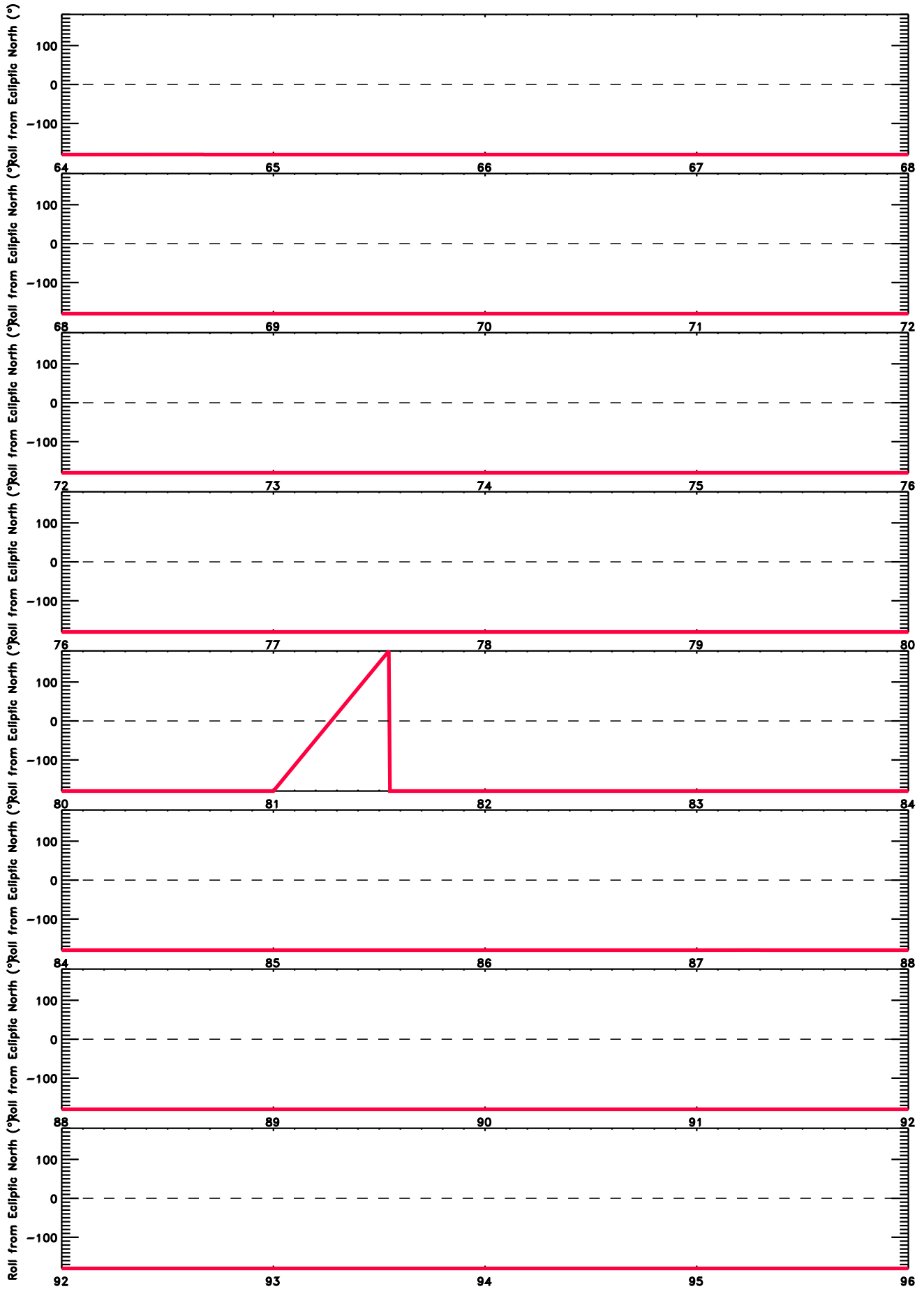
Day of 2018  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



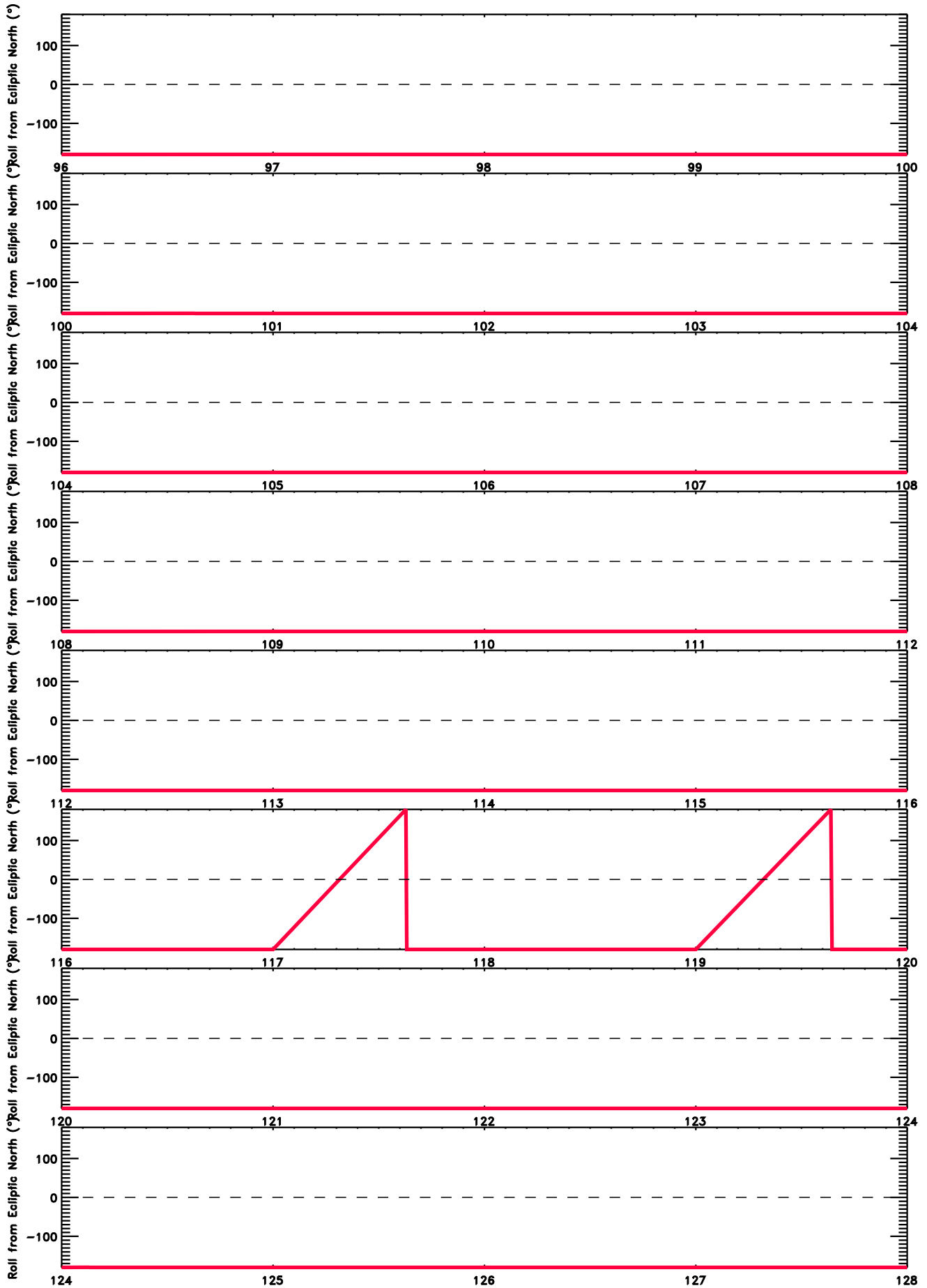
Day of 2018  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



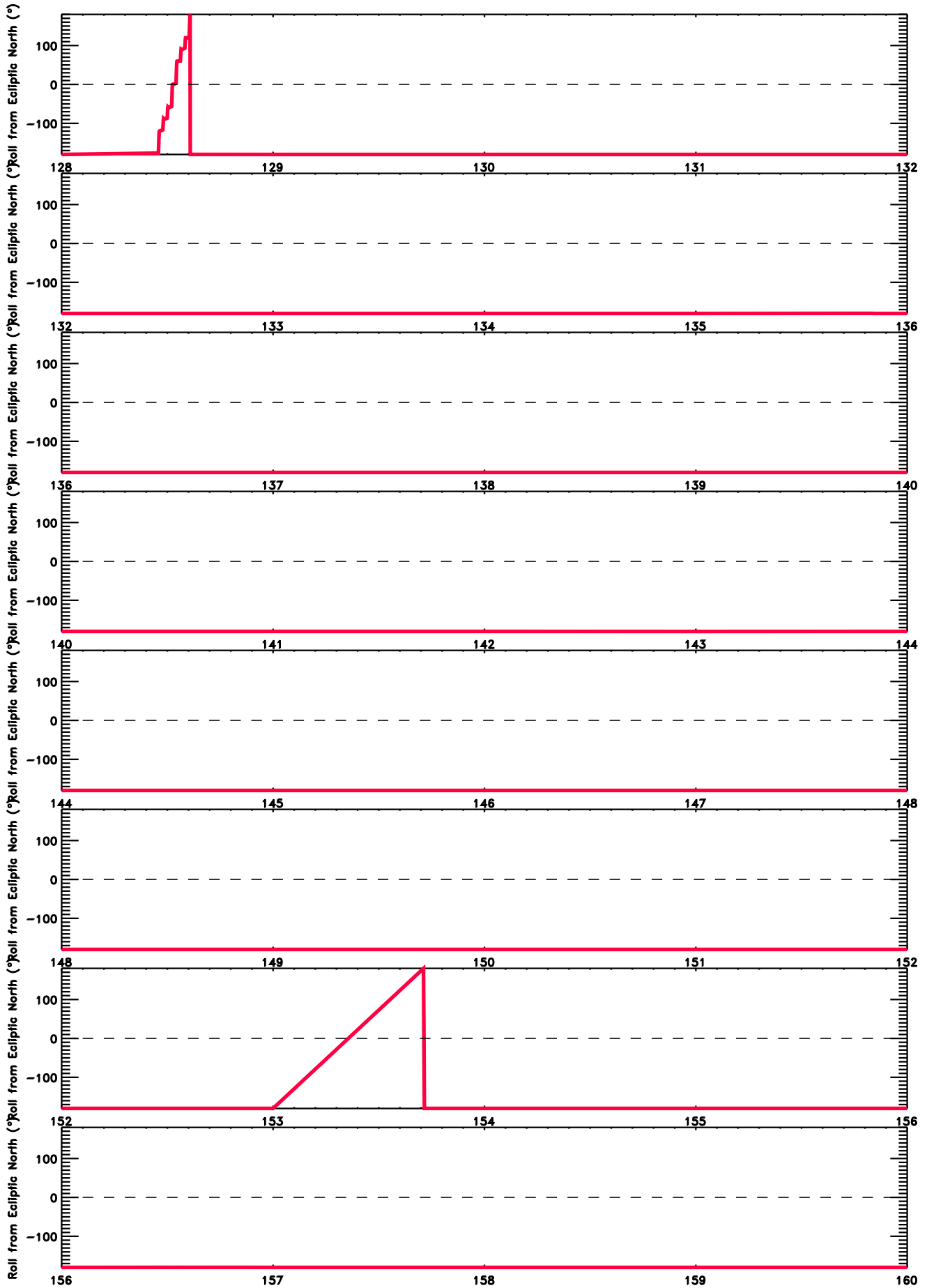
Day of 2018  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



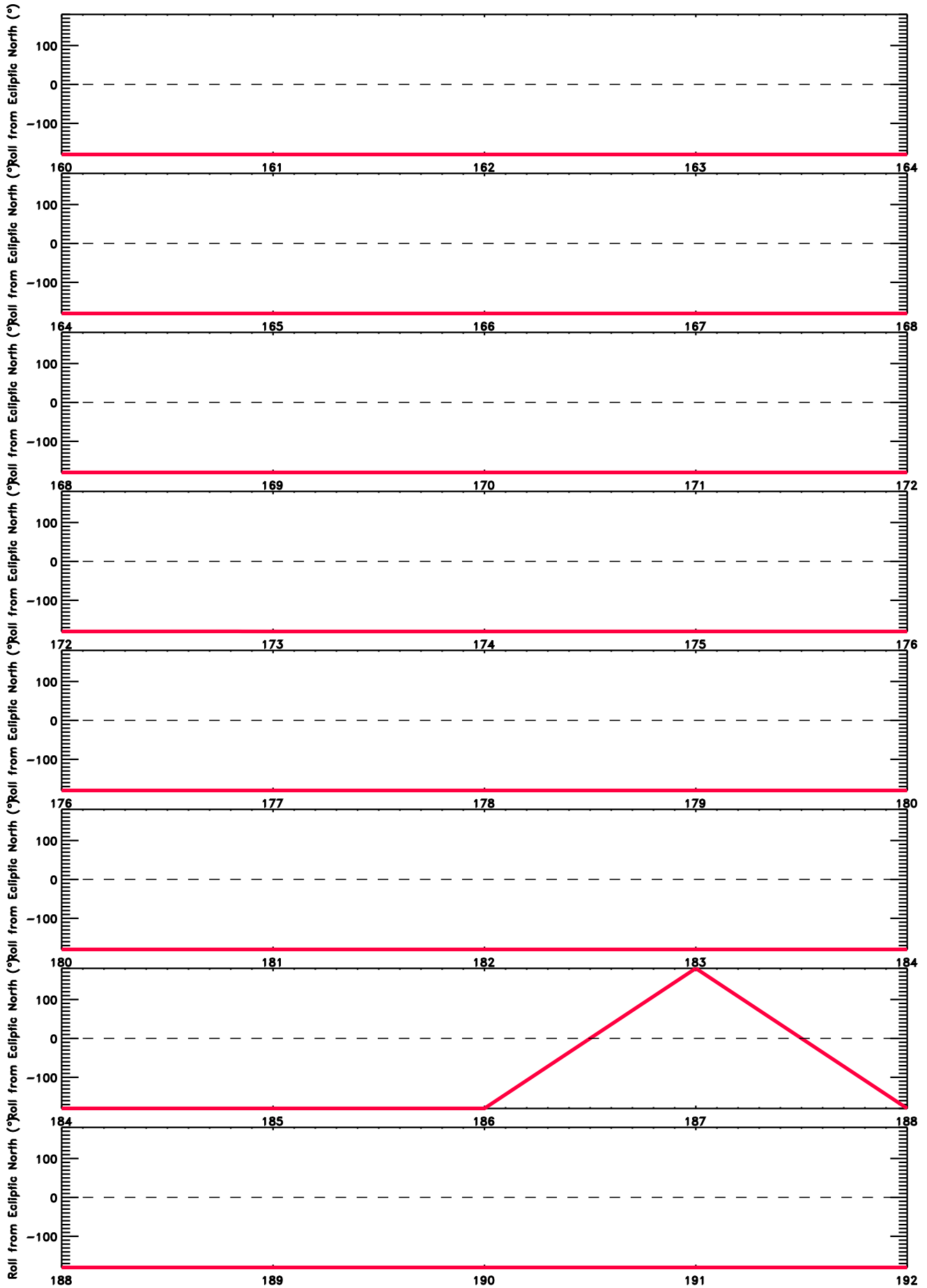
Day of 2018  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2018  
Red = Ahead; Blue = Behind

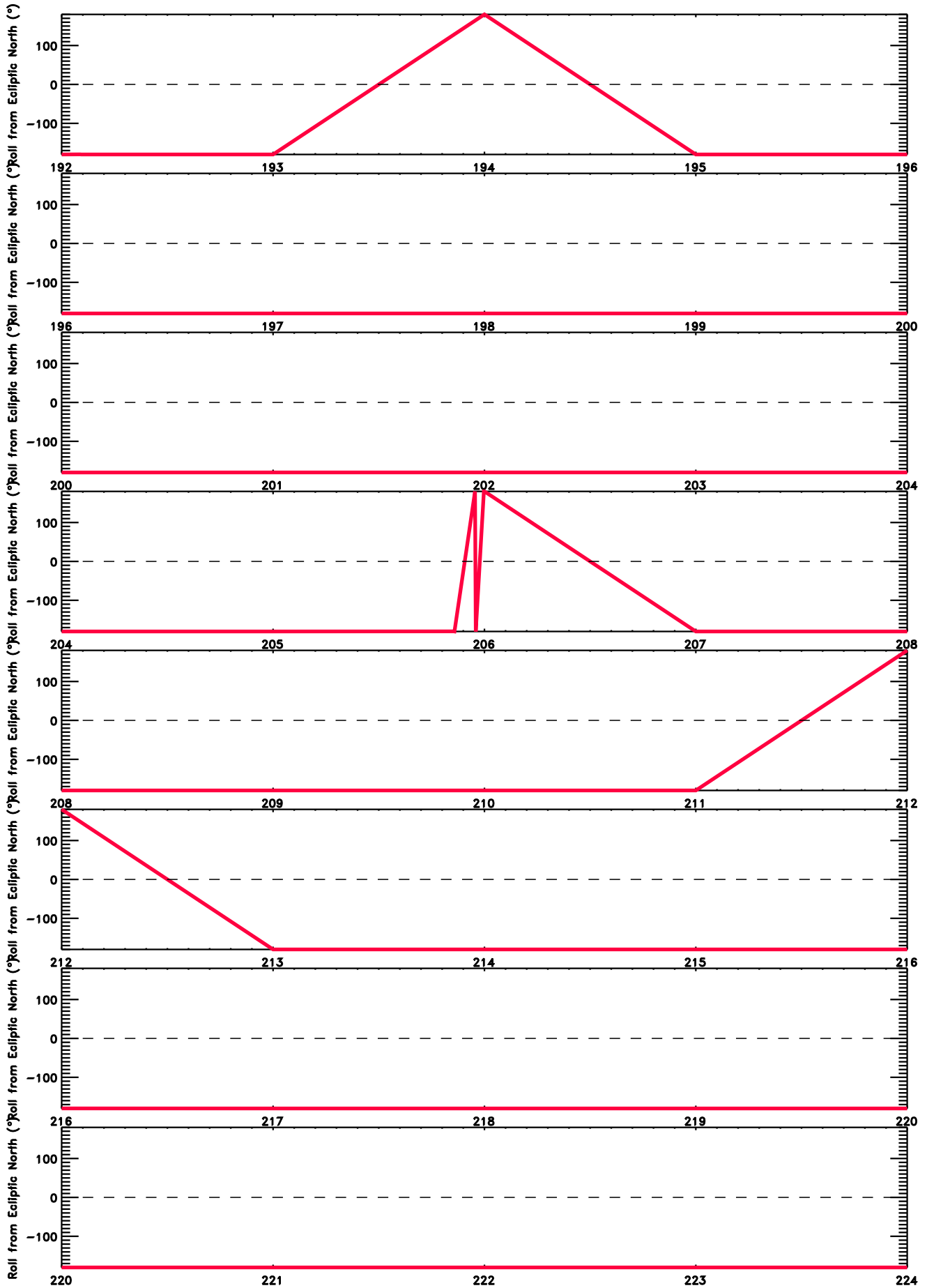
# Roll Angle from Ecliptic North (°)



Day of 2018  
Red = Ahead; Blue = Behind

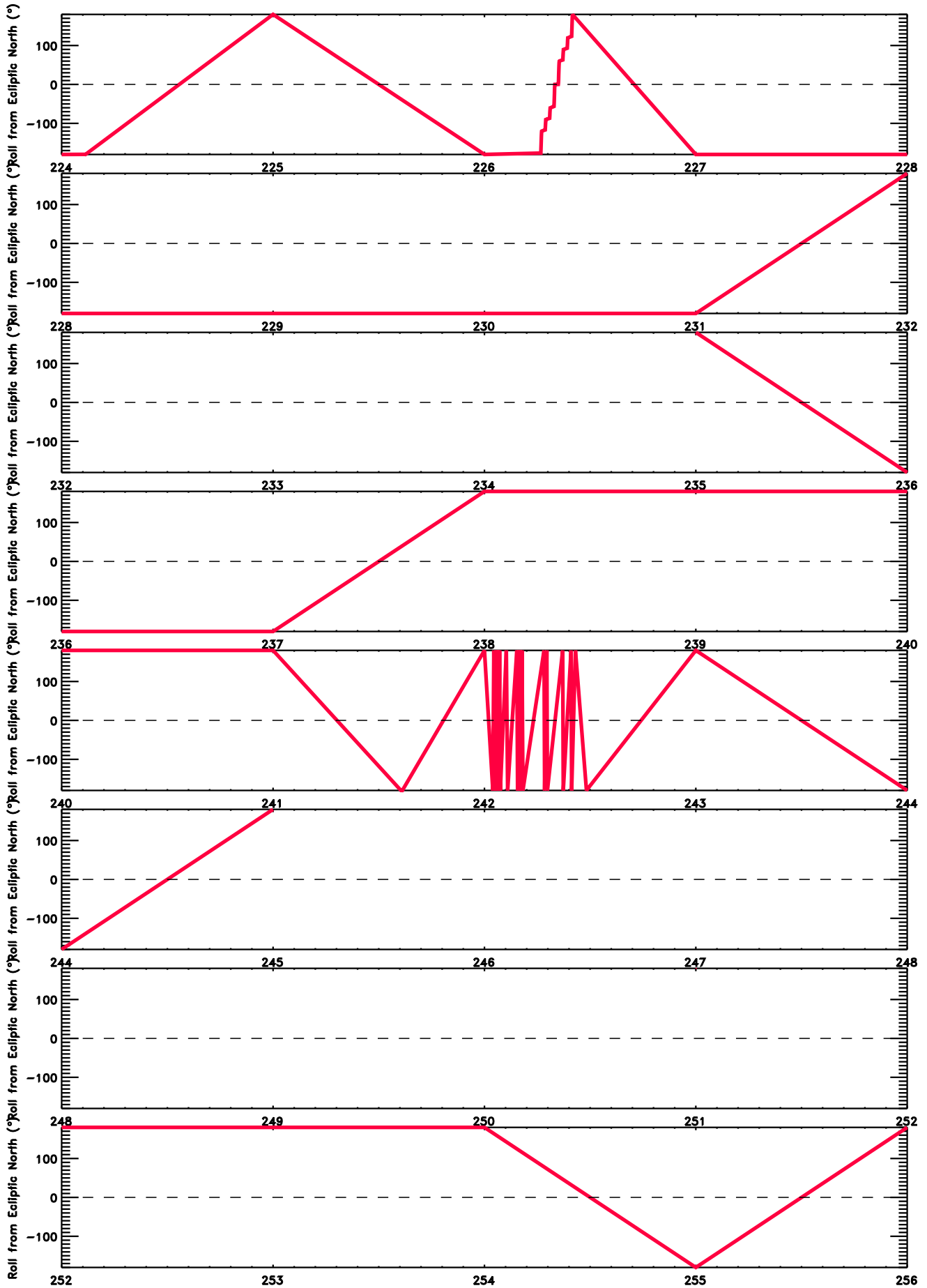


# Roll Angle from Ecliptic North ( $^{\circ}$ )



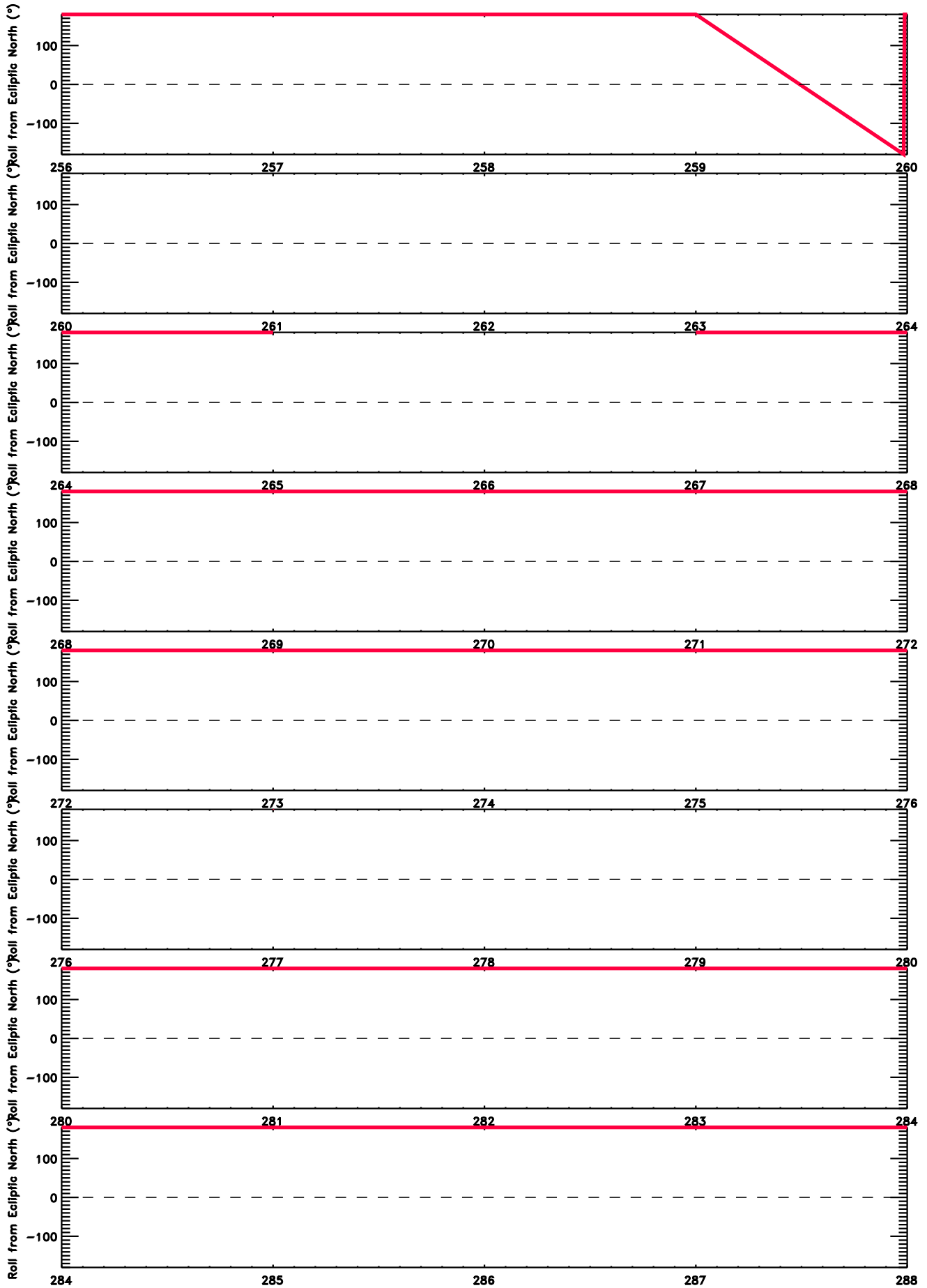
Day of 2018  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



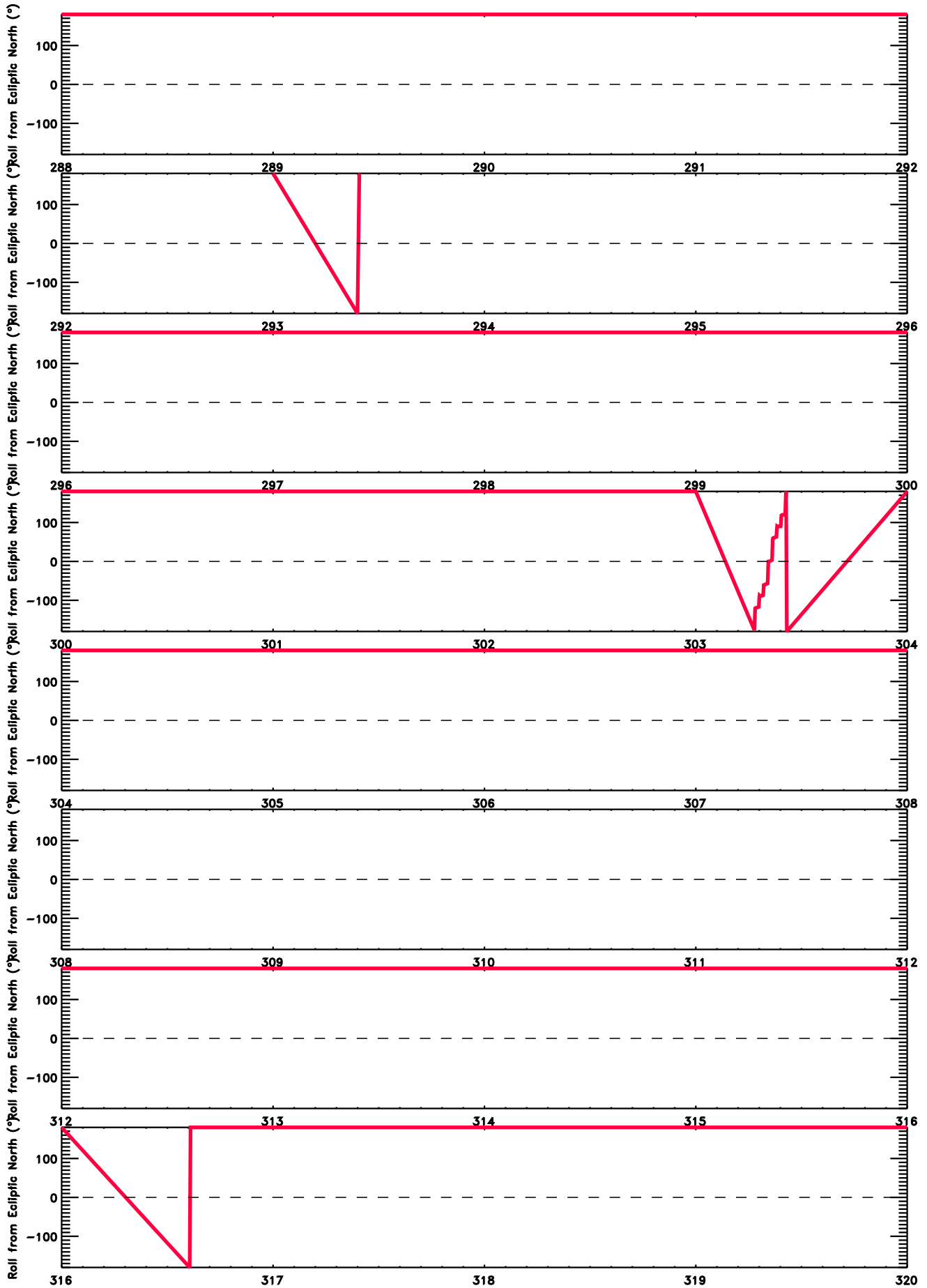
Day of 2018  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



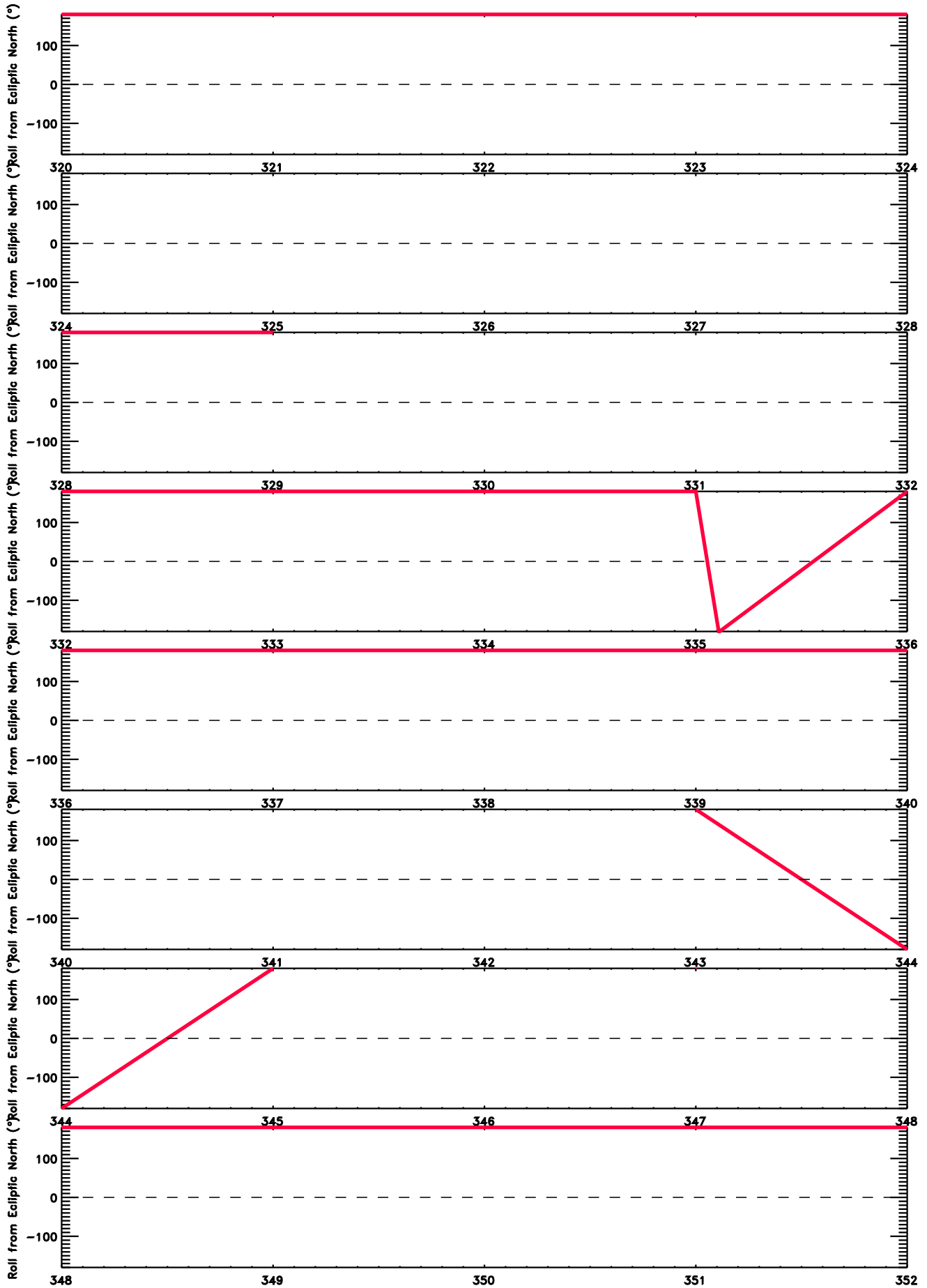
Day of 2018  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



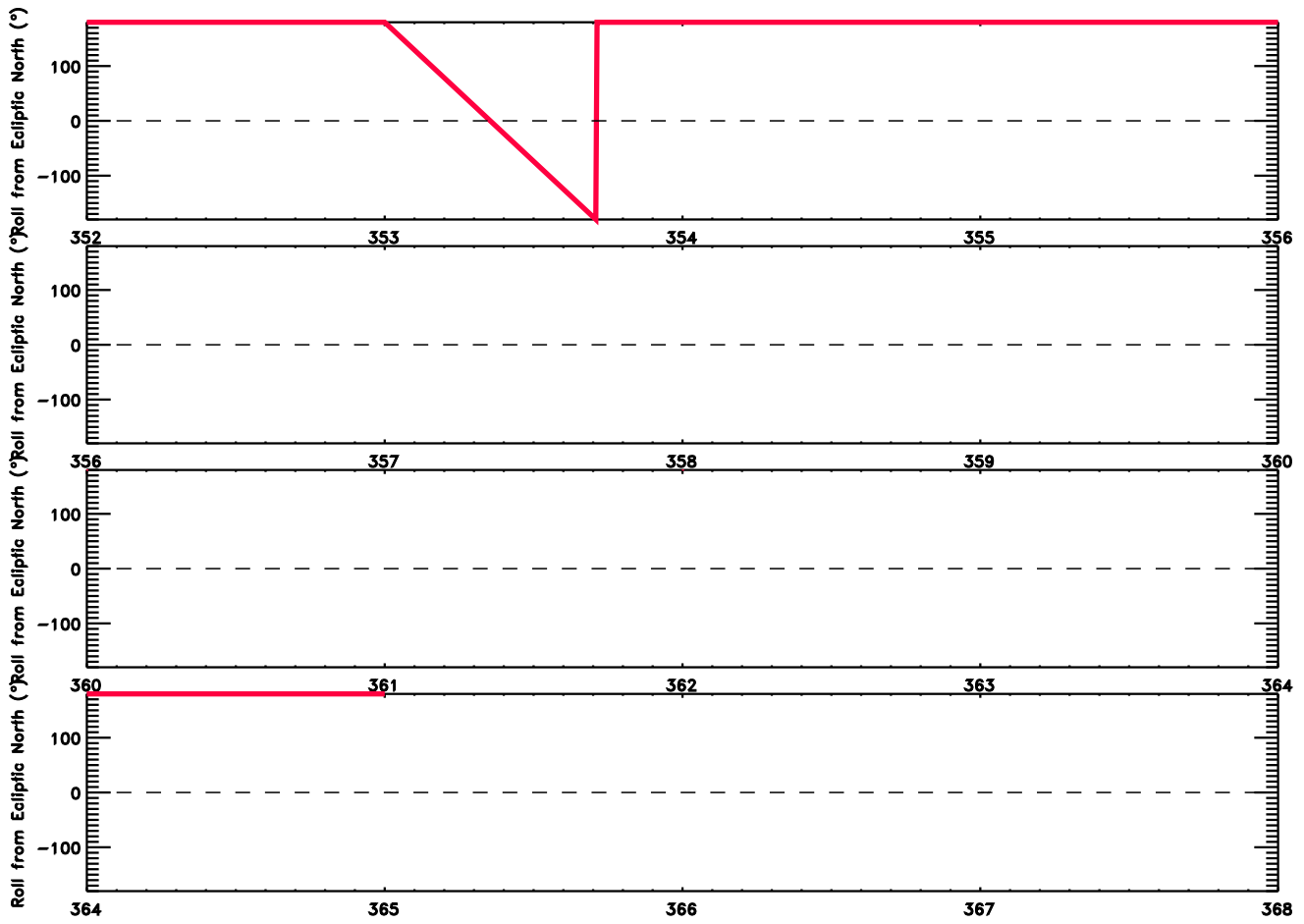
Day of 2018  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



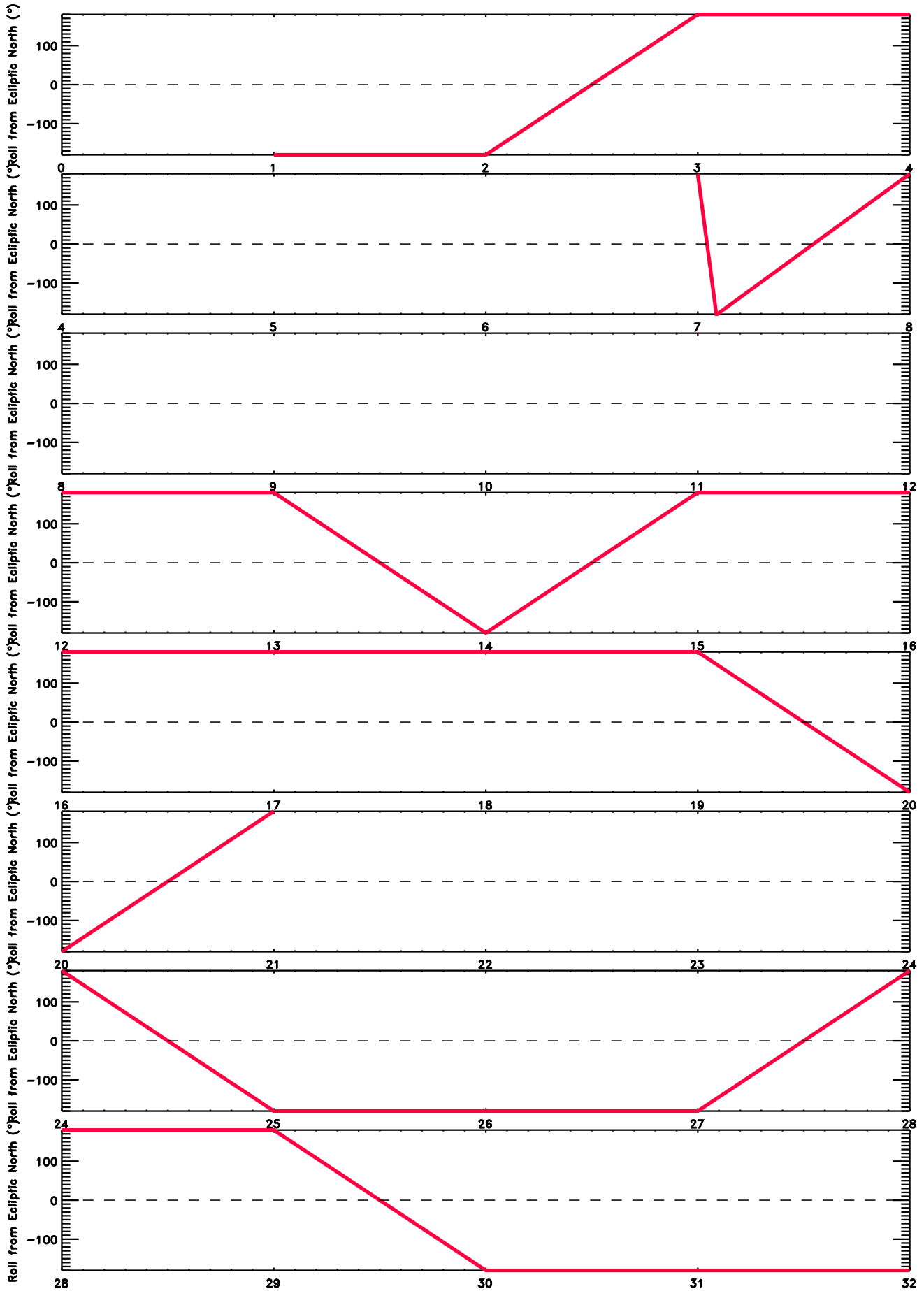
Day of 2018  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2018  
Red = Ahead; Blue = Behind

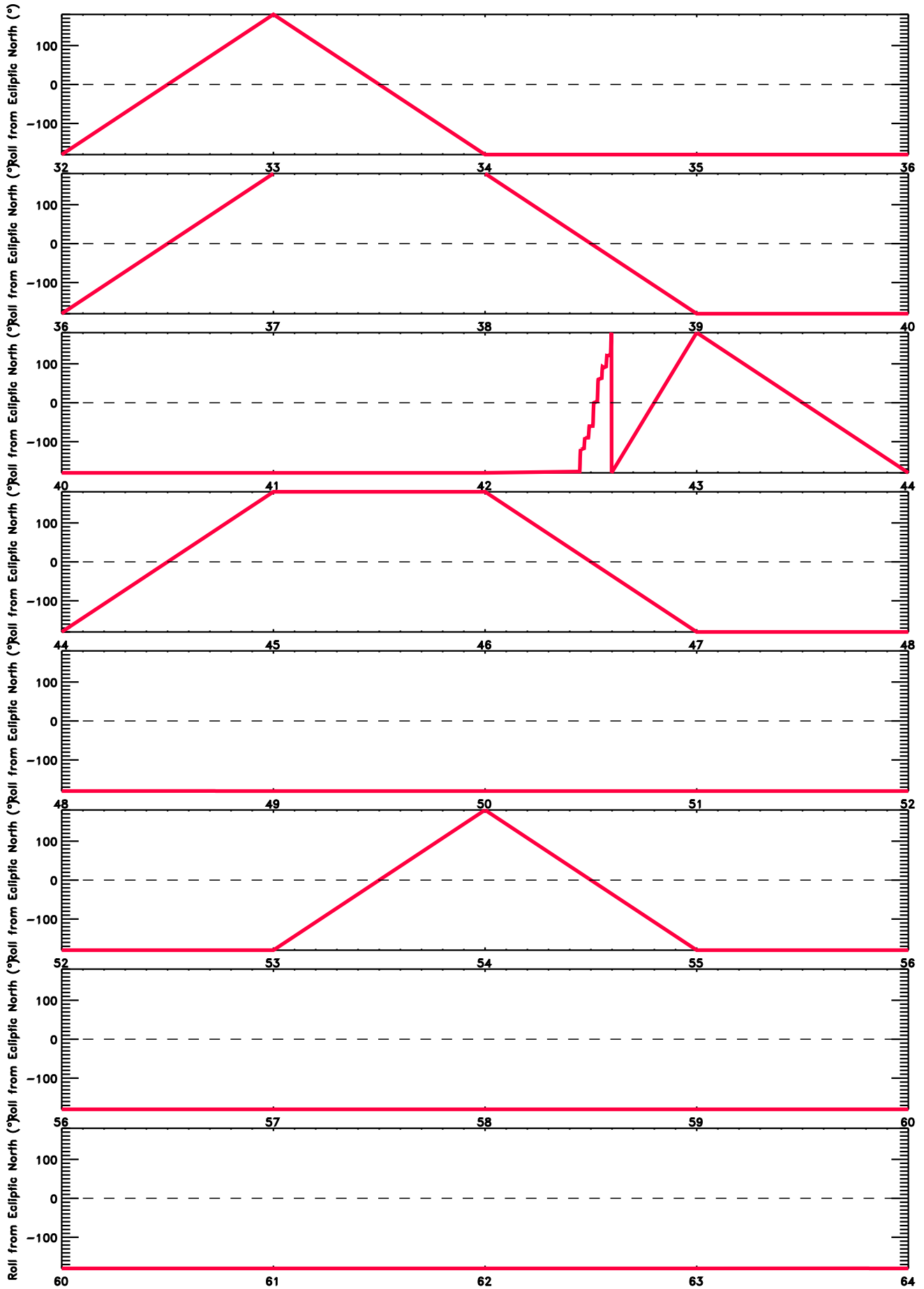
# Roll Angle from Ecliptic North (°)



Day of 2019

Red = Ahead; Blue = Behind

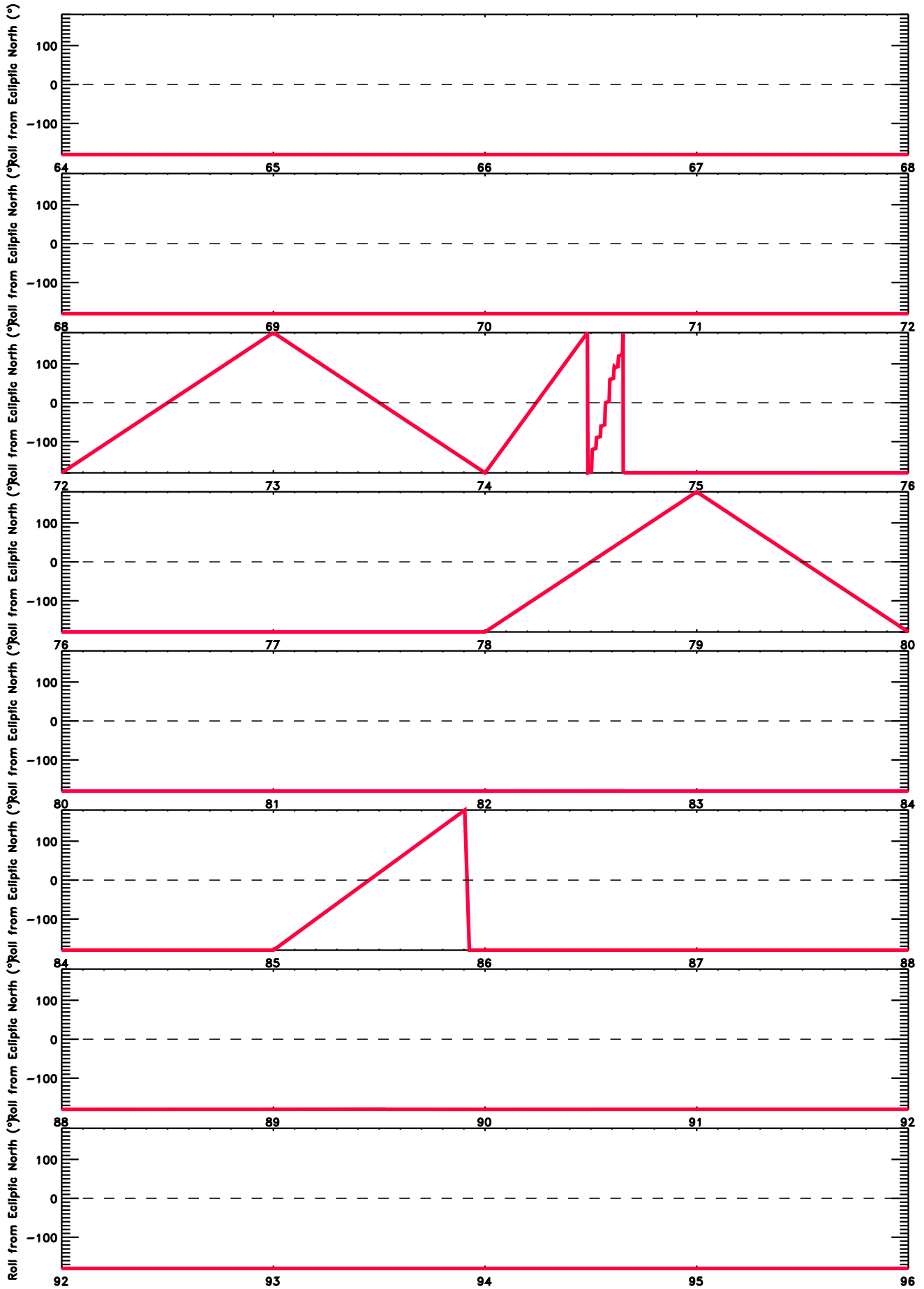
# Roll Angle from Ecliptic North (°)



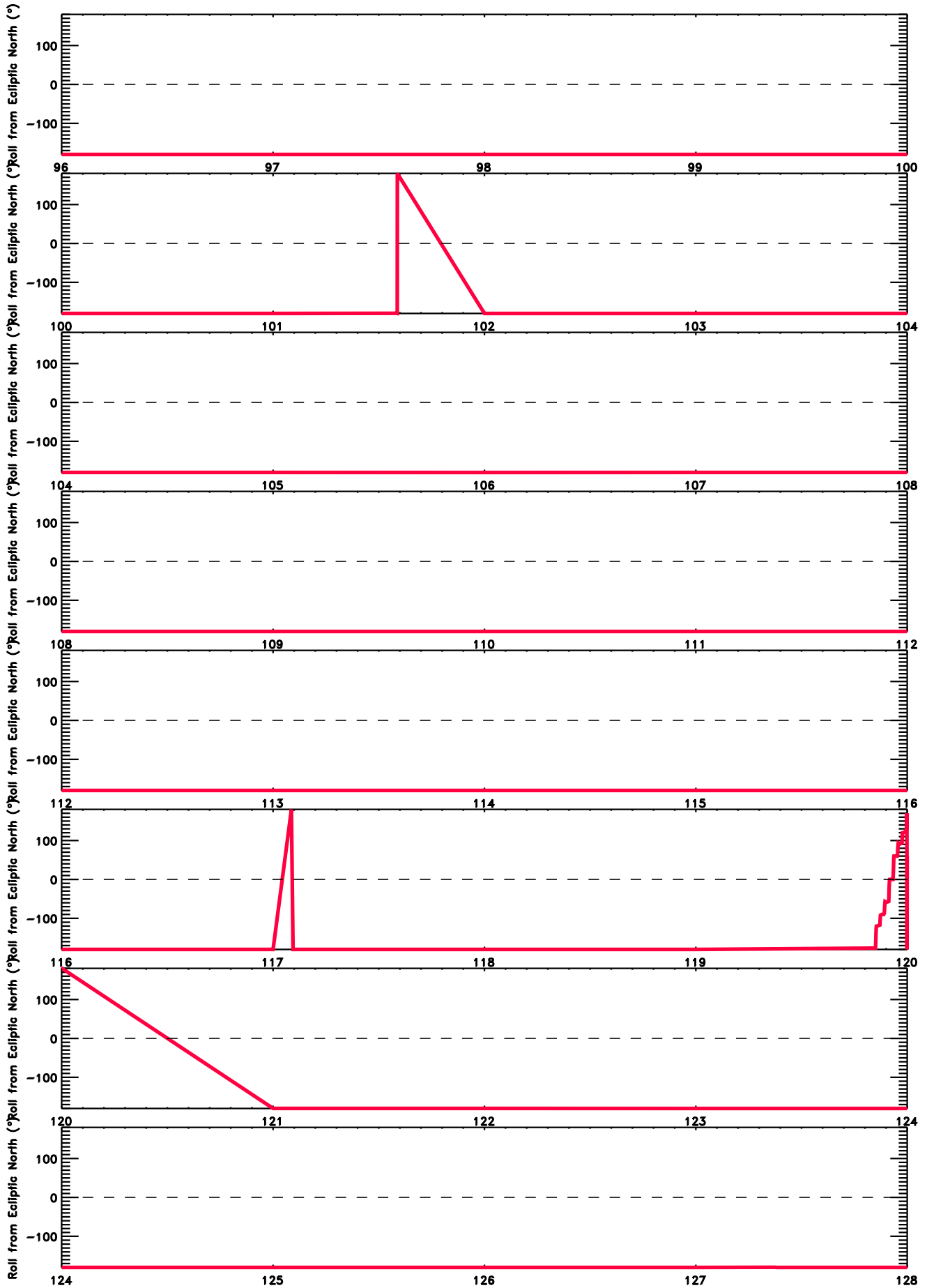
Day of 2019  
Red = Ahead; Blue = Behind



# Roll Angle from Ecliptic North (°)

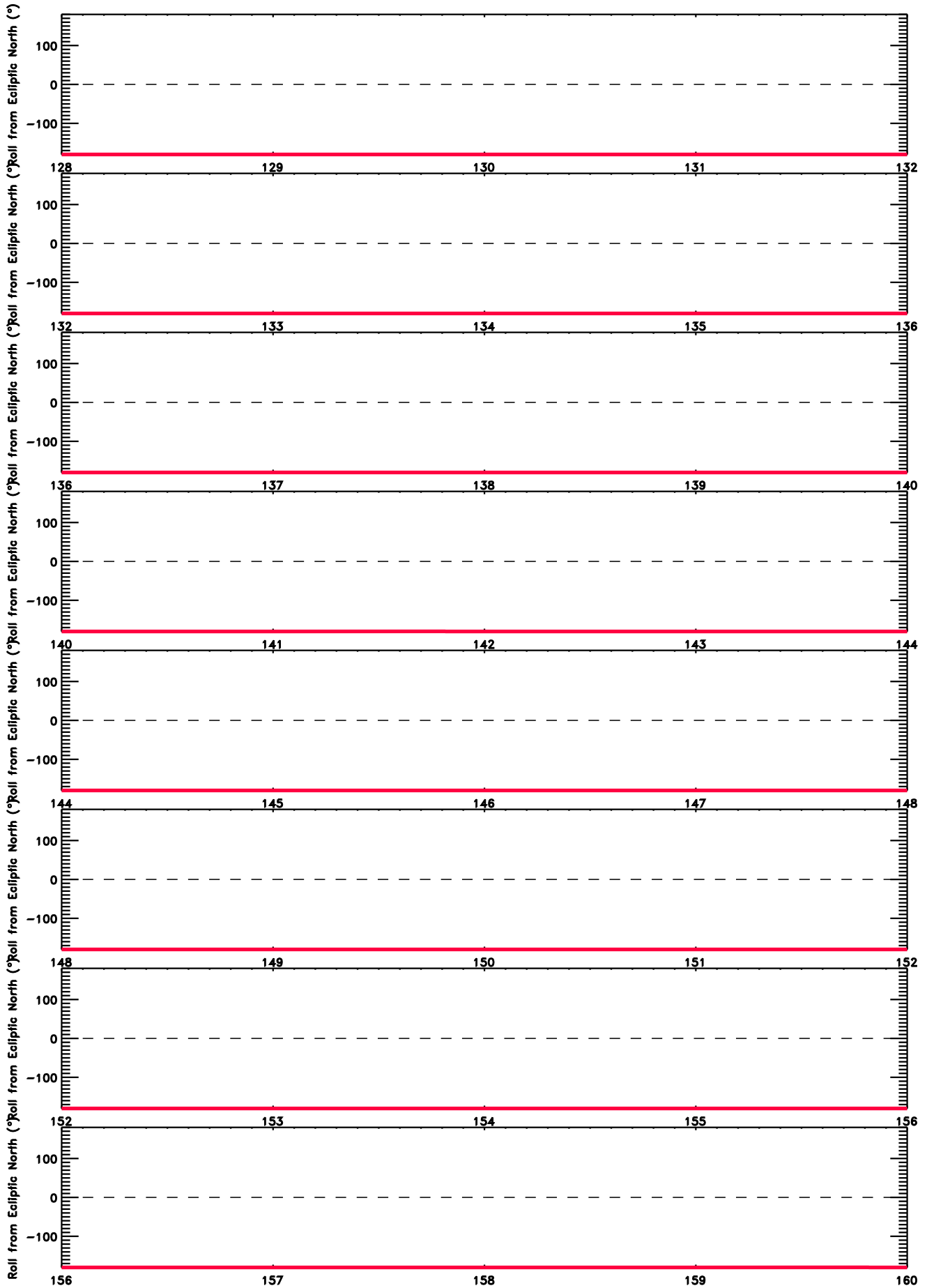


# Roll Angle from Ecliptic North ( $^{\circ}$ )



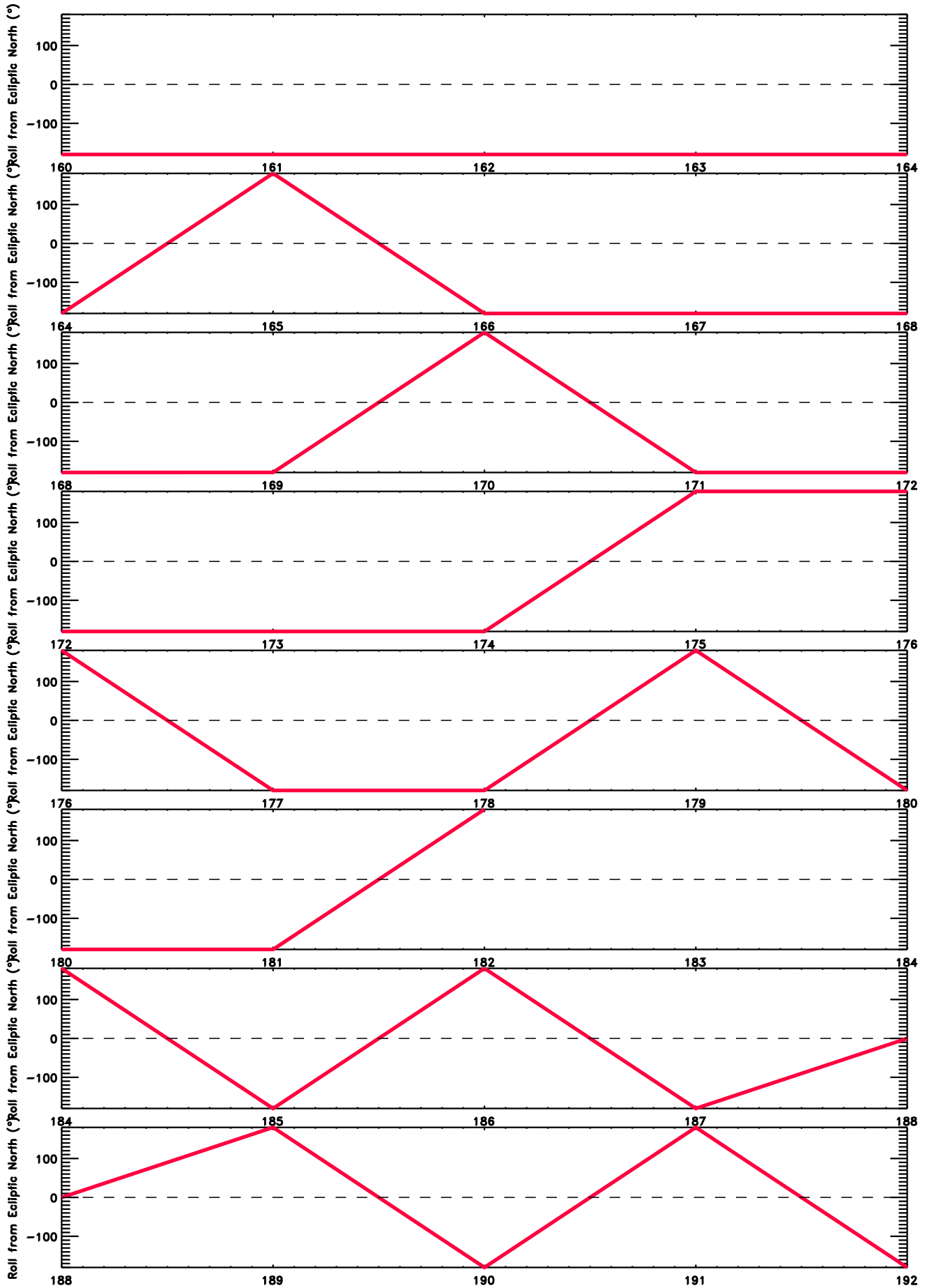
Day of 2019  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



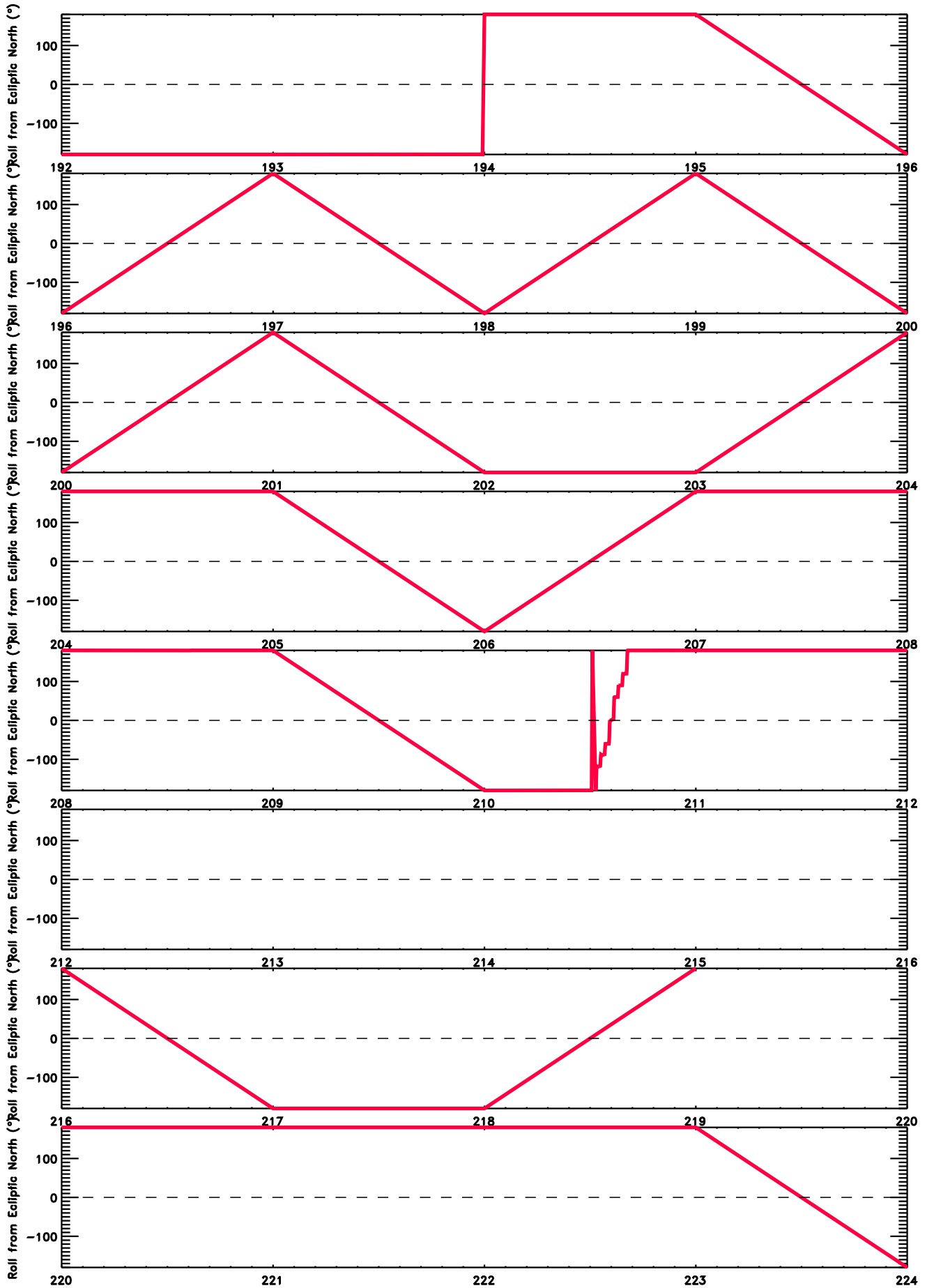
Day of 2019  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



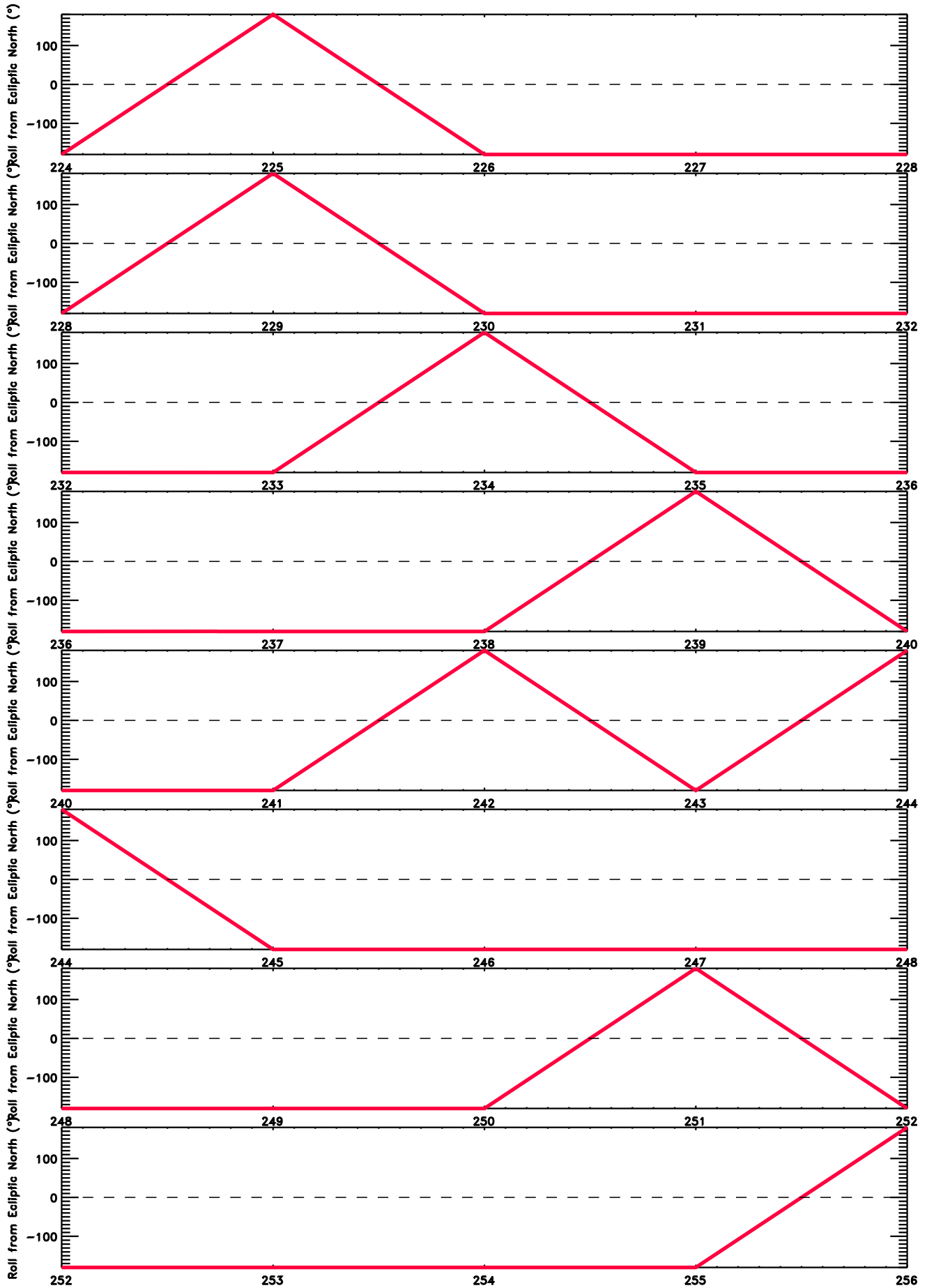
Day of 2019  
 Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



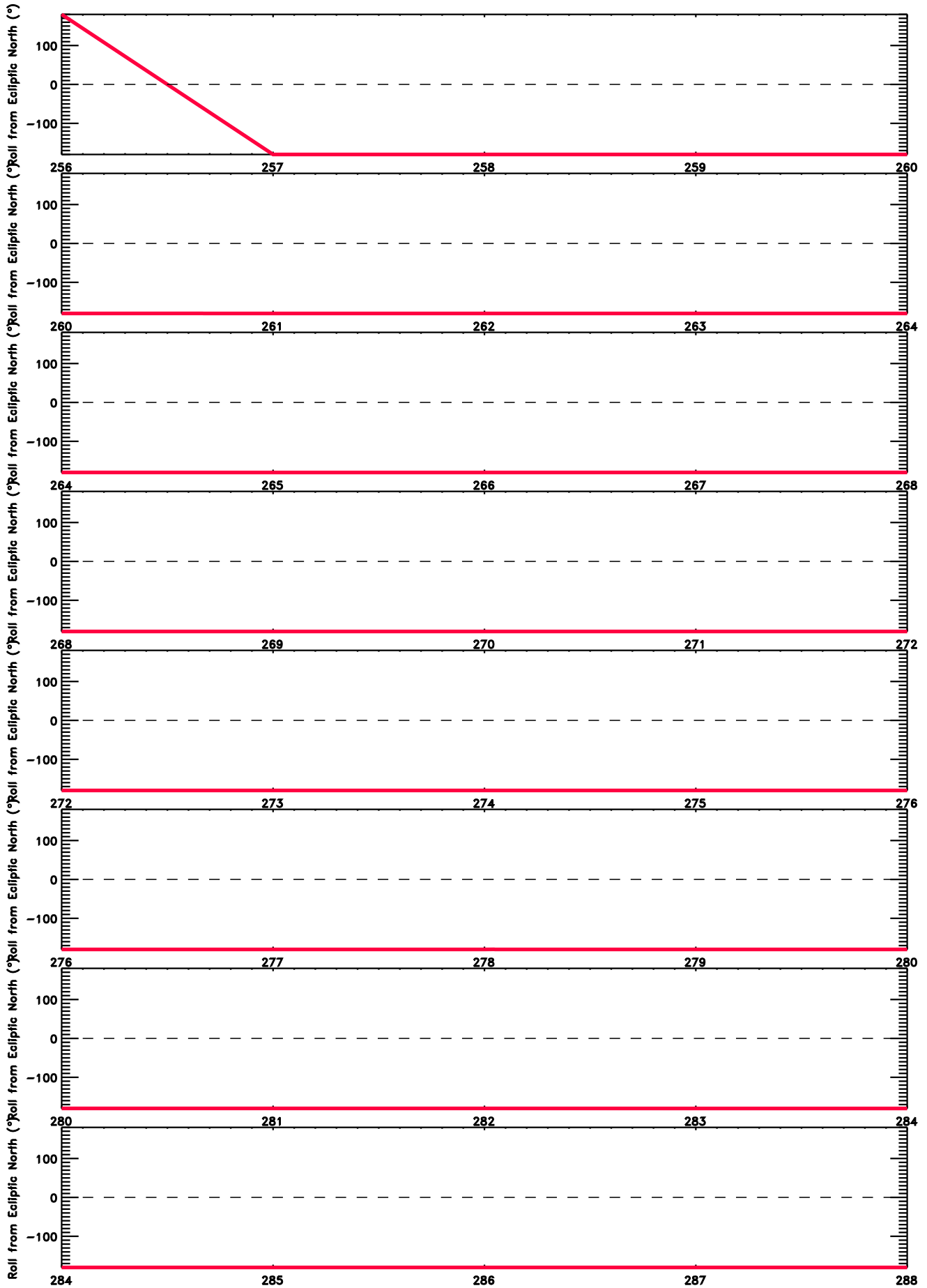
Day of 2019  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



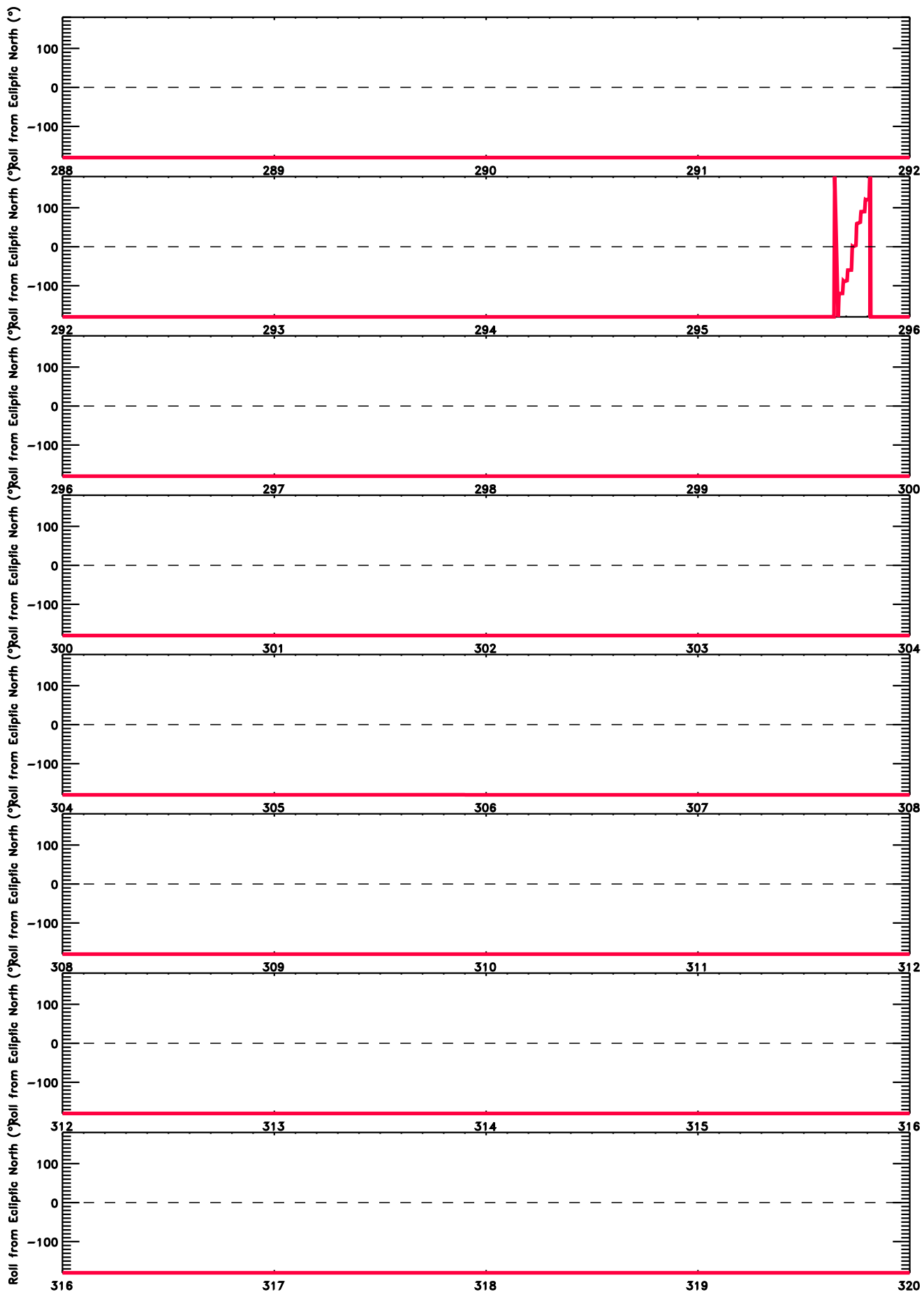
Day of 2019  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2019  
Red = Ahead; Blue = Behind

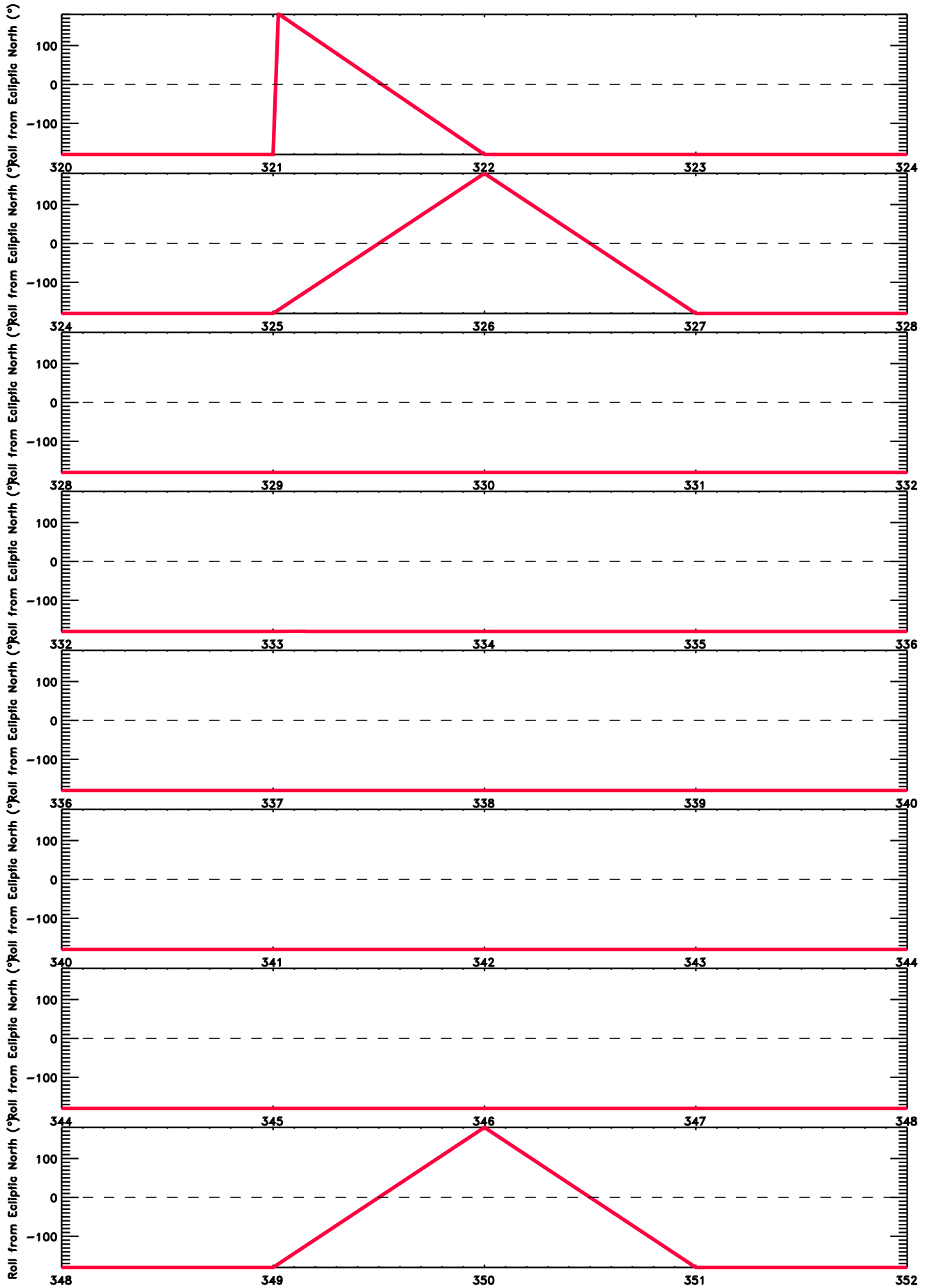
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2019  
Red = Ahead; Blue = Behind

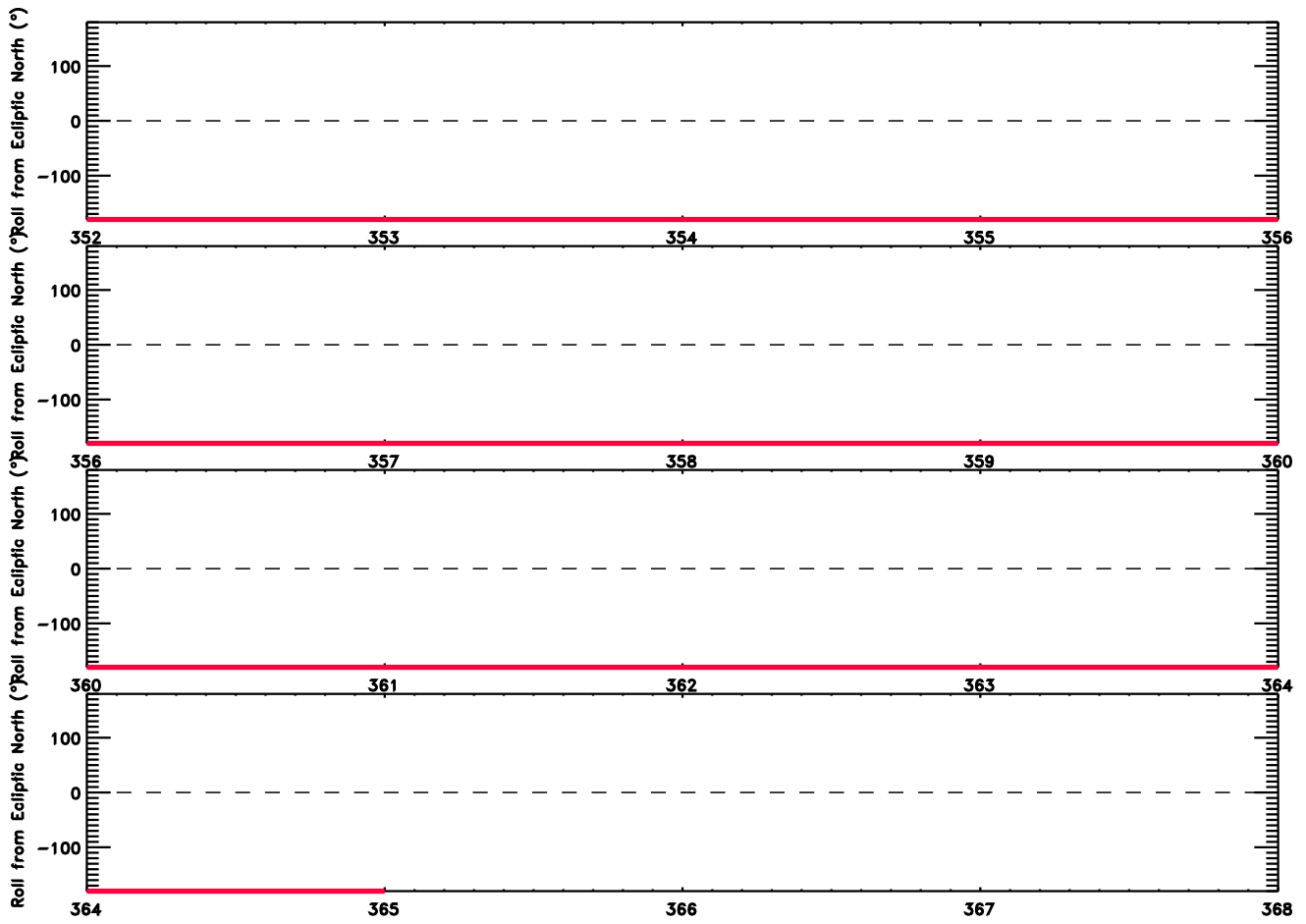


# Roll Angle from Ecliptic North ( $^{\circ}$ )



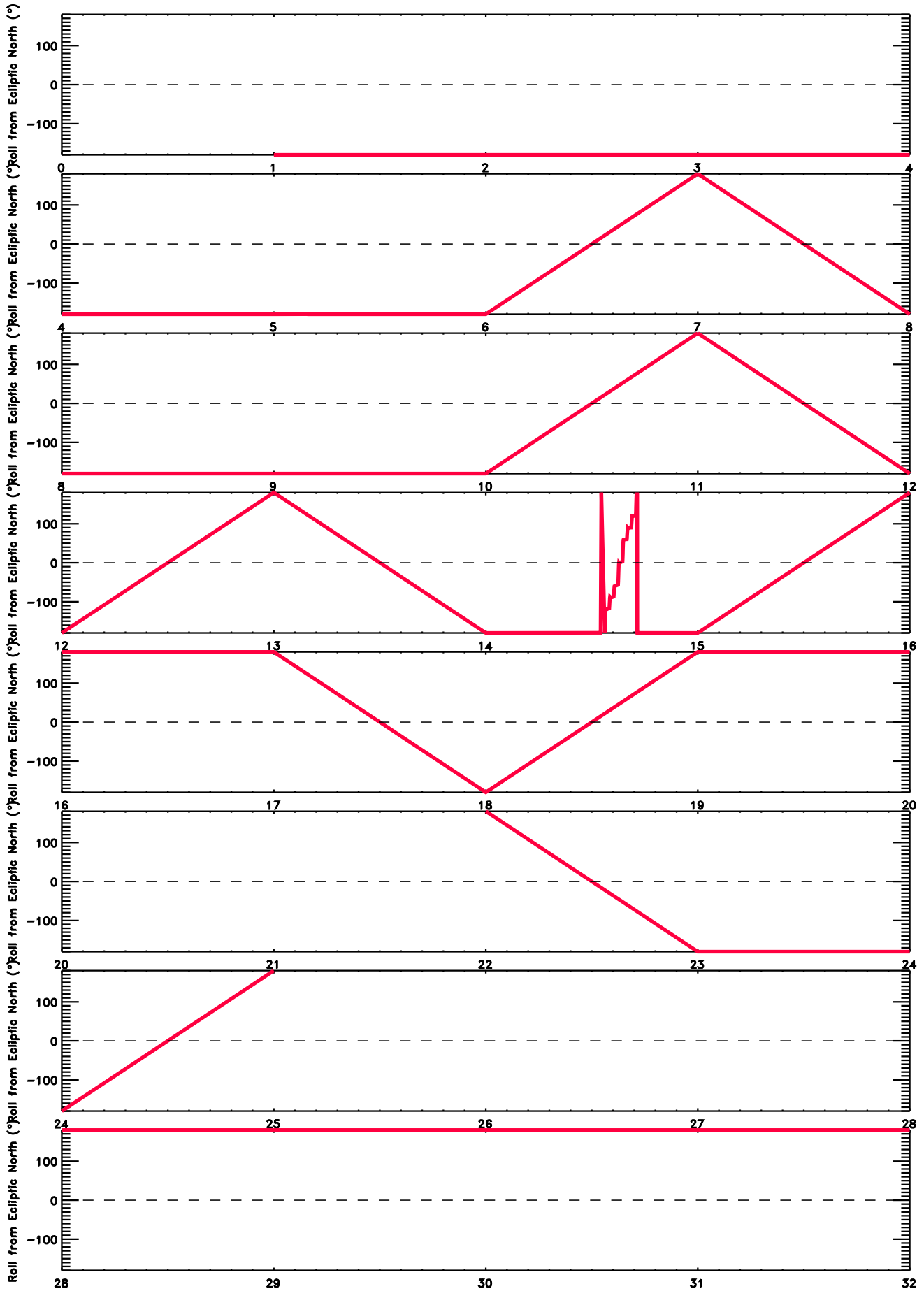
Day of 2019  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



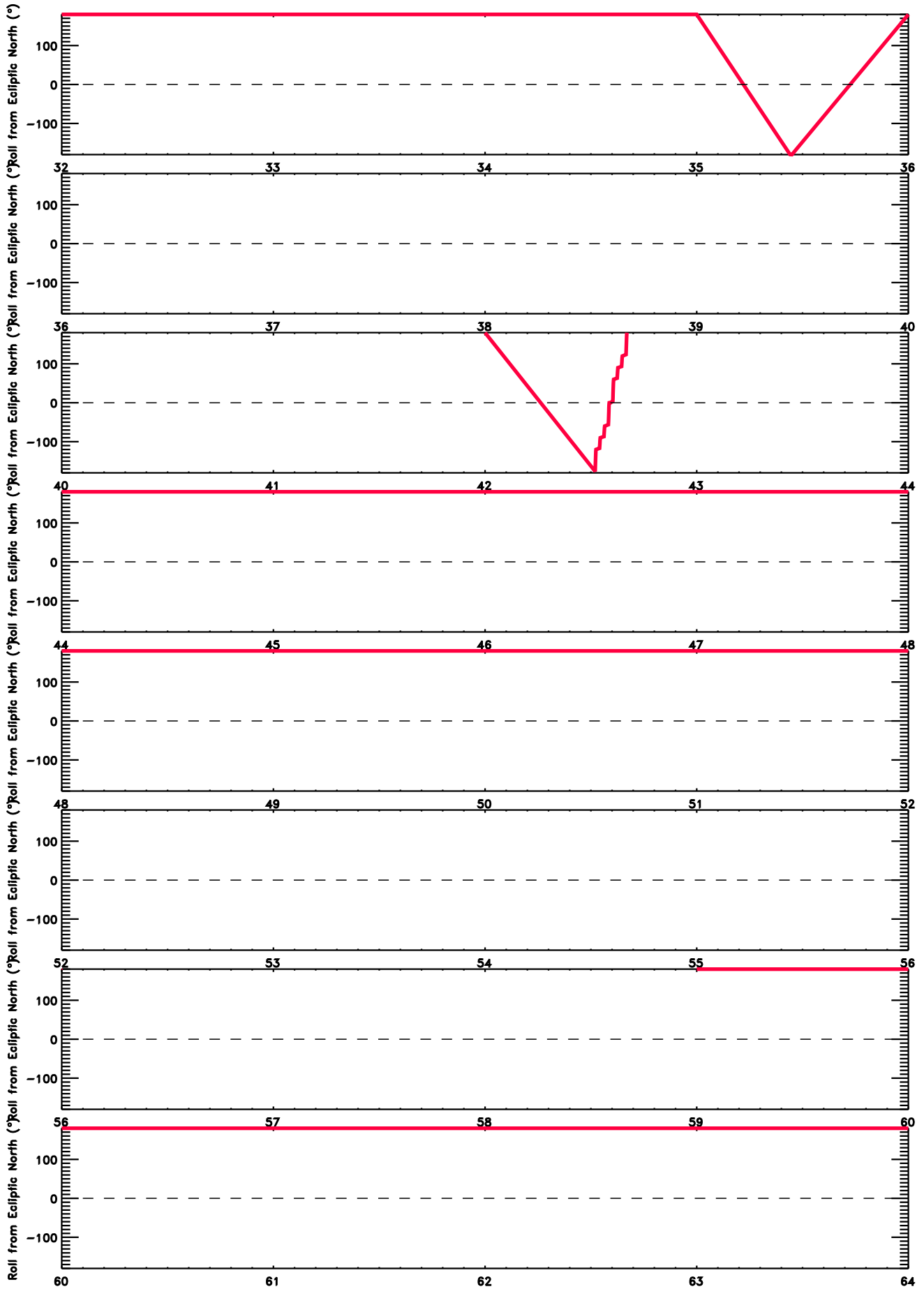
Day of 2019  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



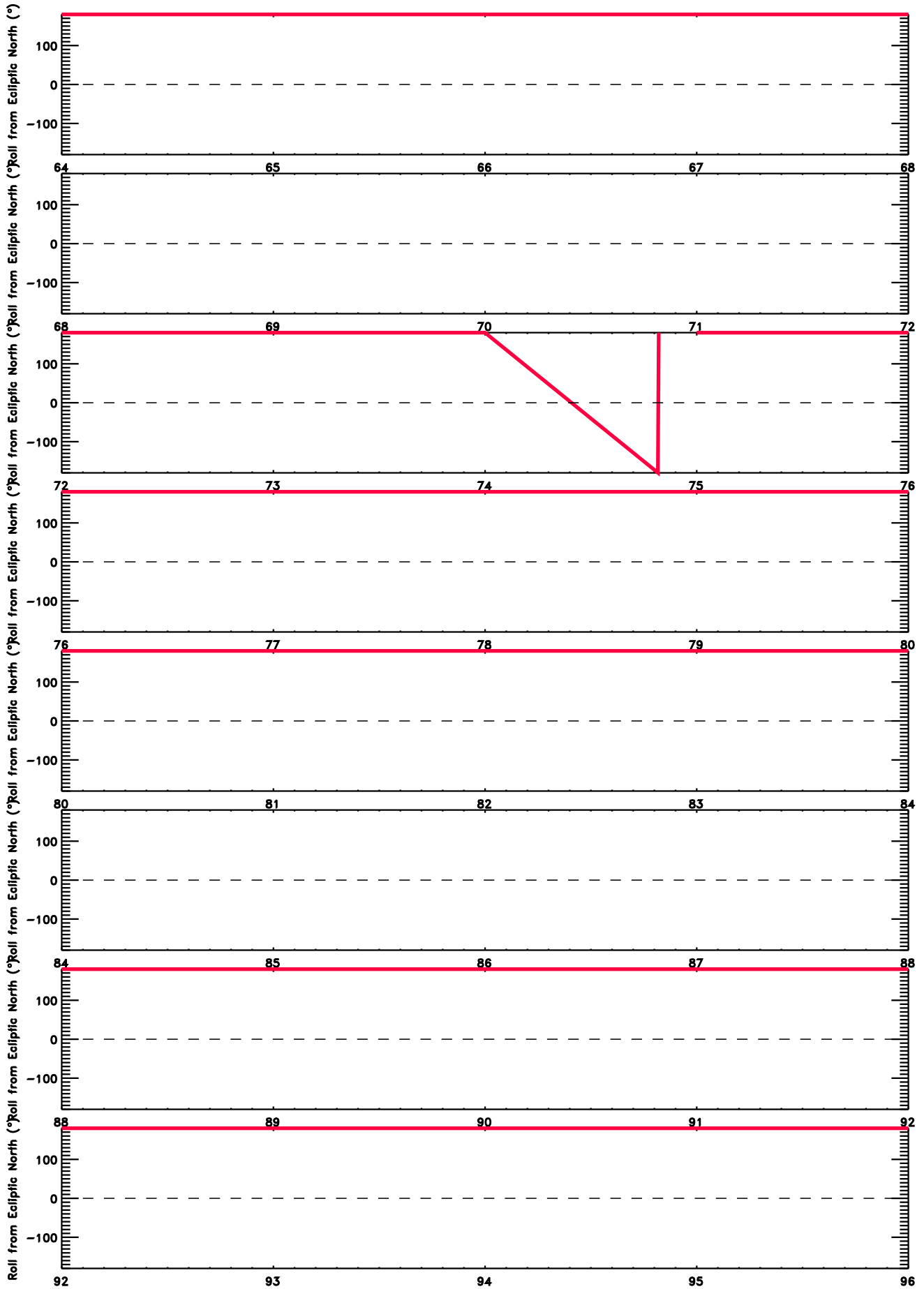
Day of 2020  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



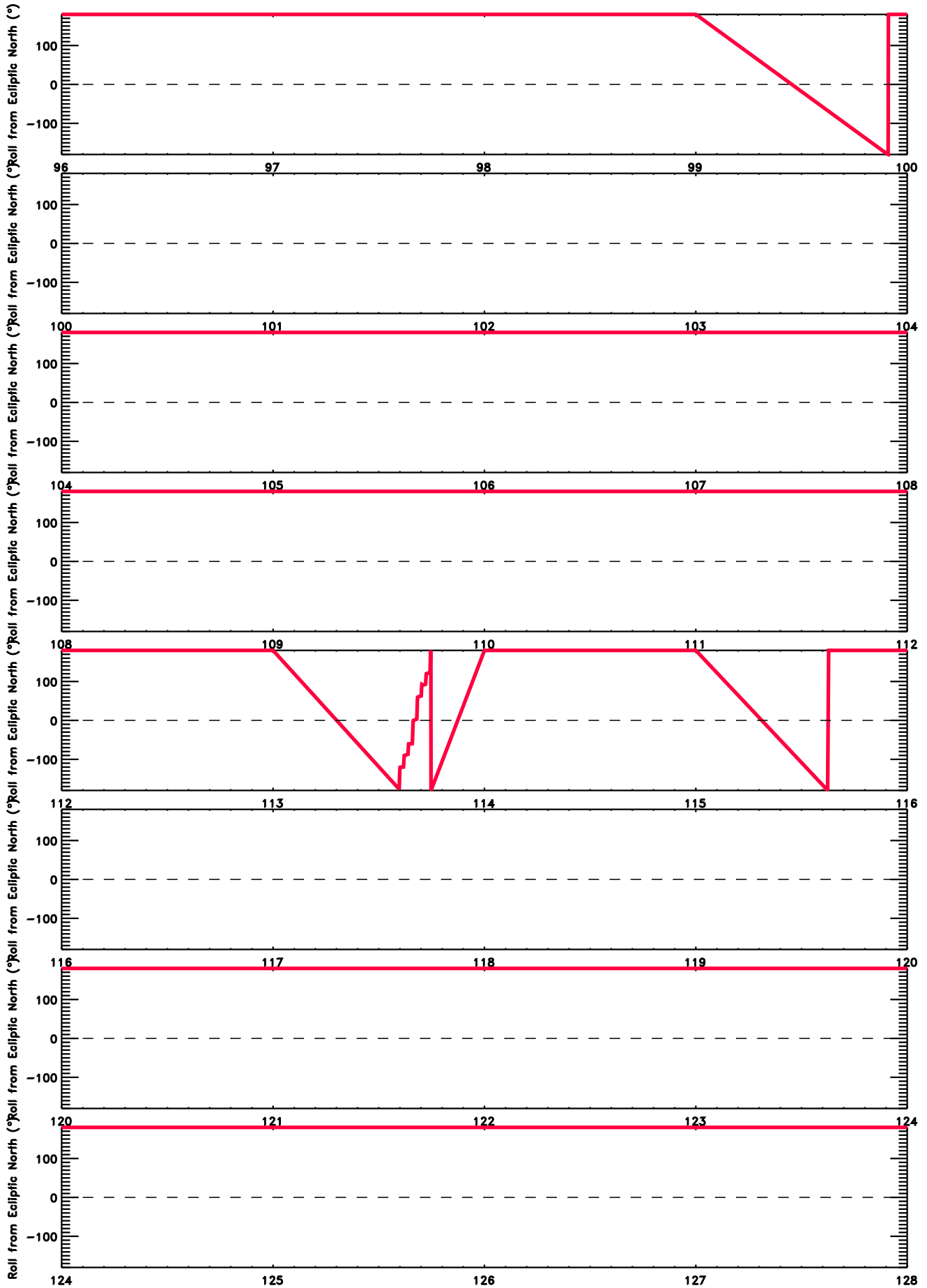
Day of 2020  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



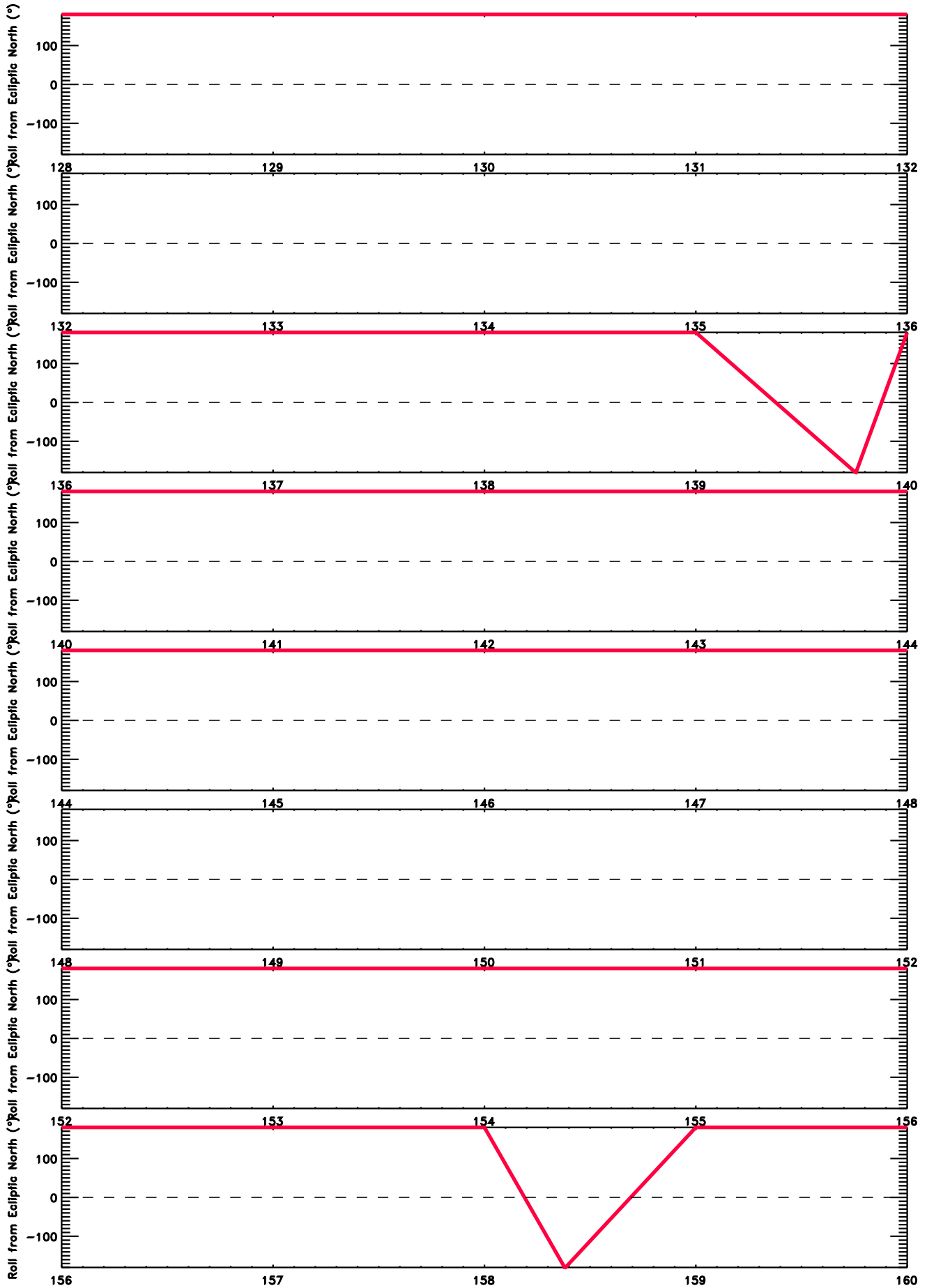
Day of 2020  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



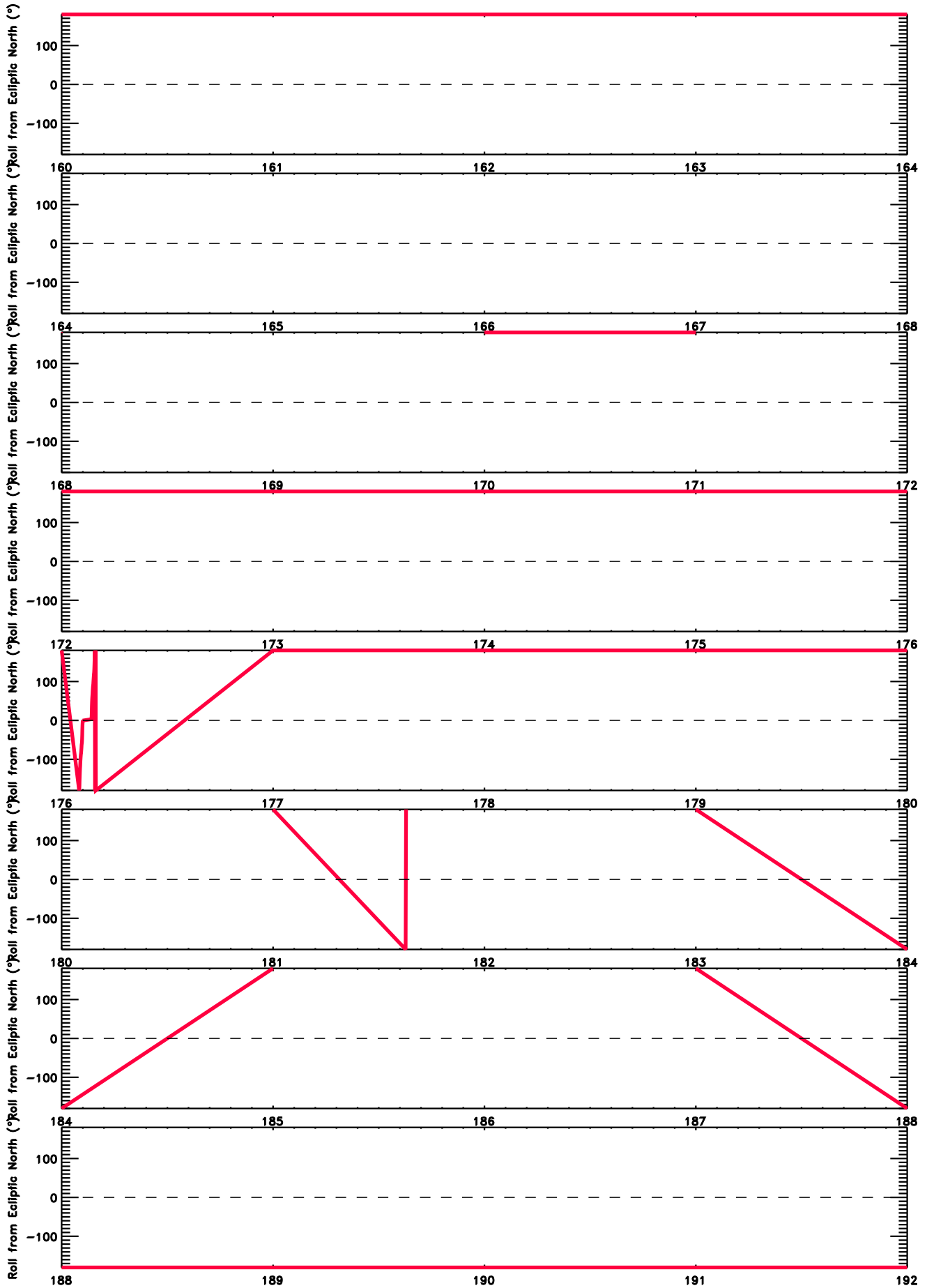
Day of 2020  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2020  
Red = Ahead; Blue = Behind

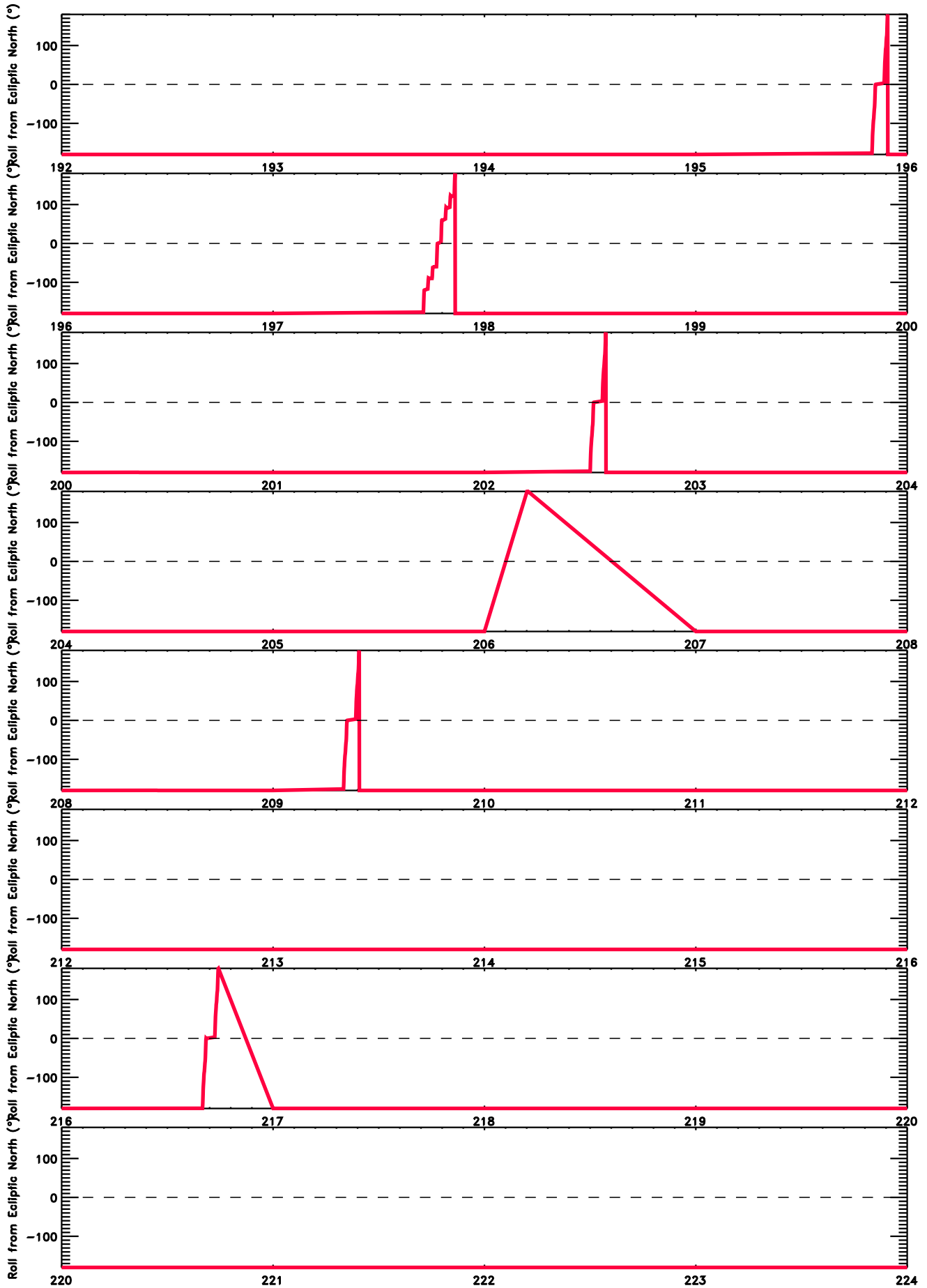
# Roll Angle from Ecliptic North (°)



Day of 2020  
Red = Ahead; Blue = Behind

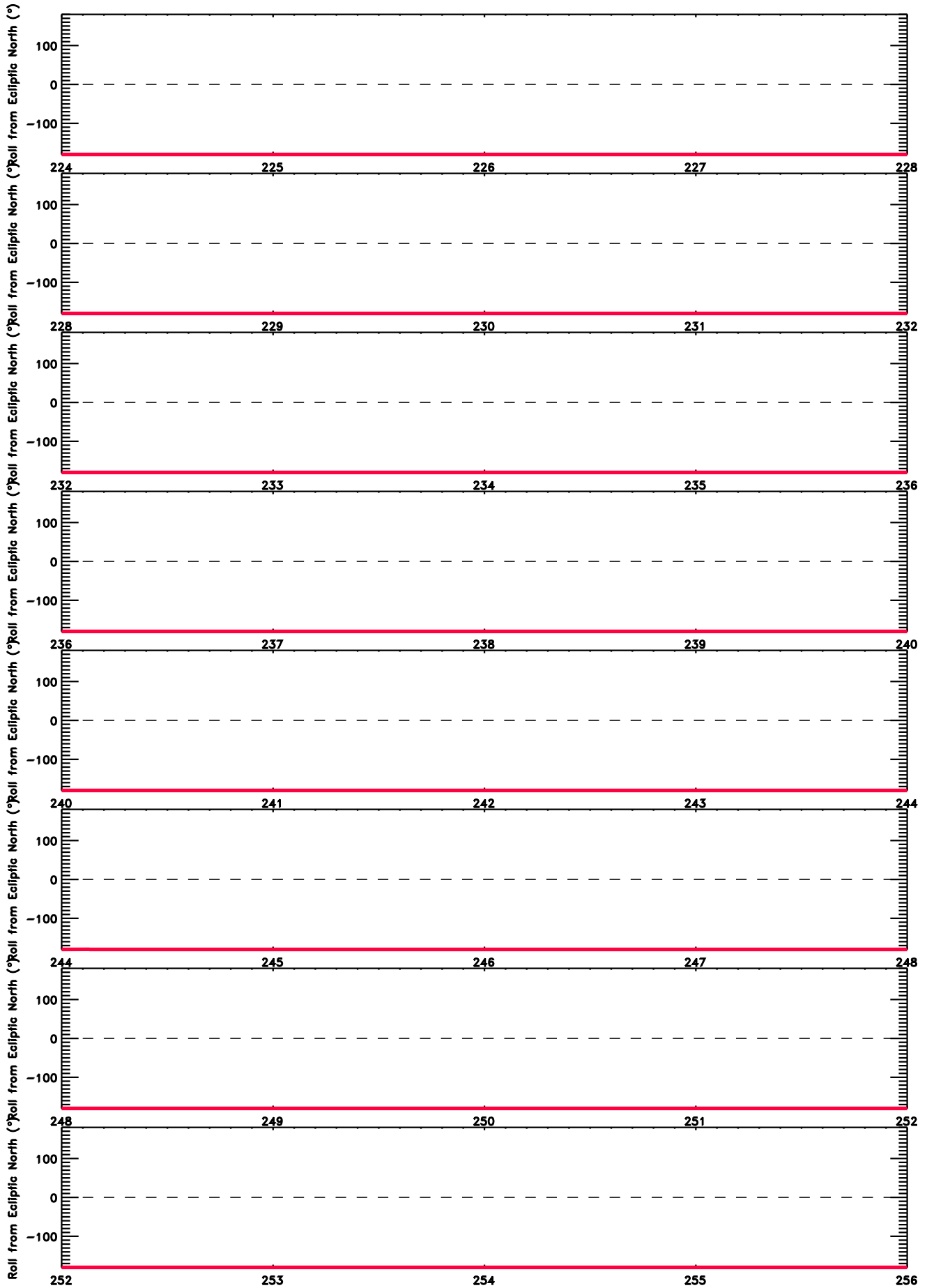


# Roll Angle from Ecliptic North (°)



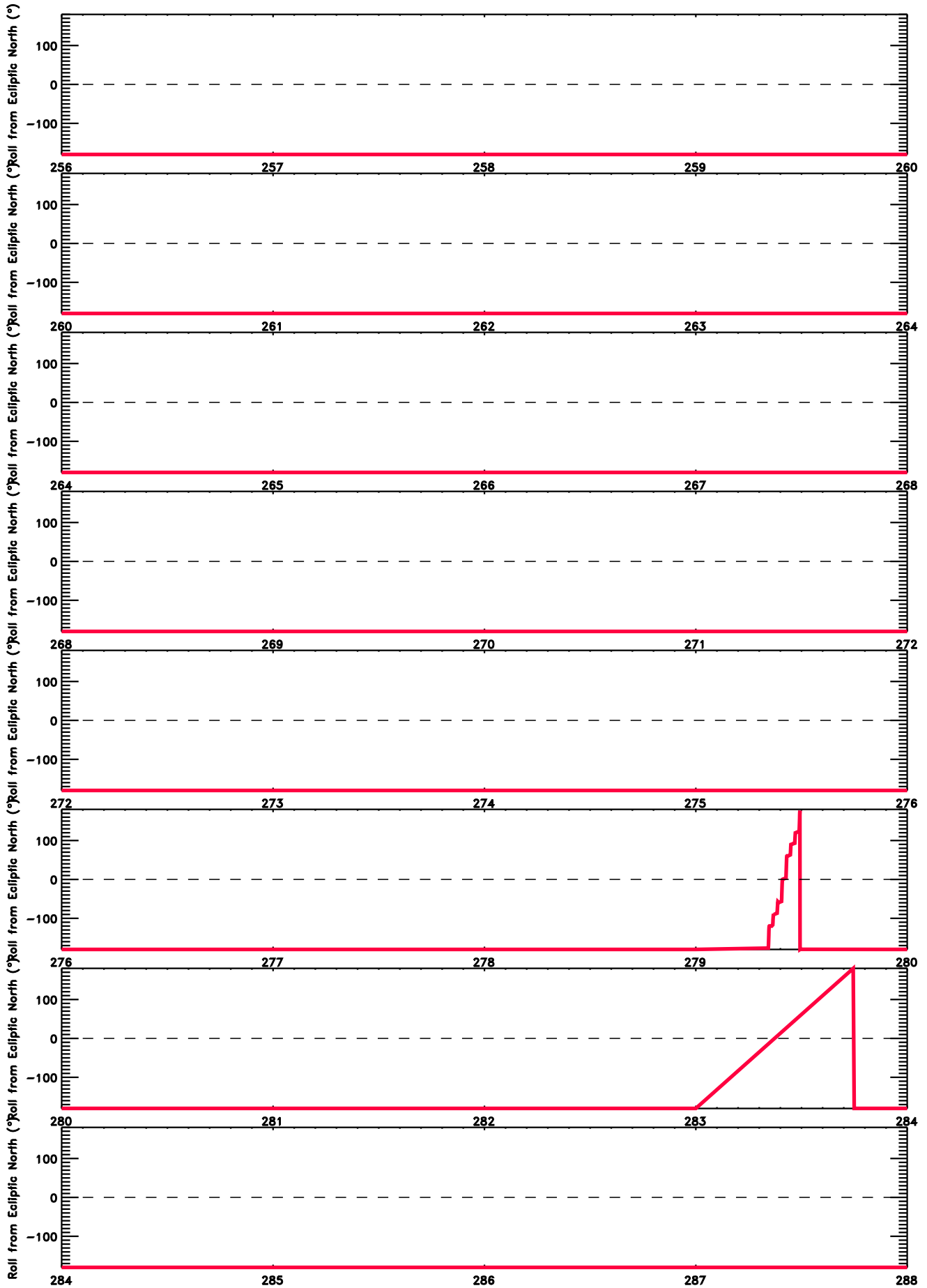
Day of 2020  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



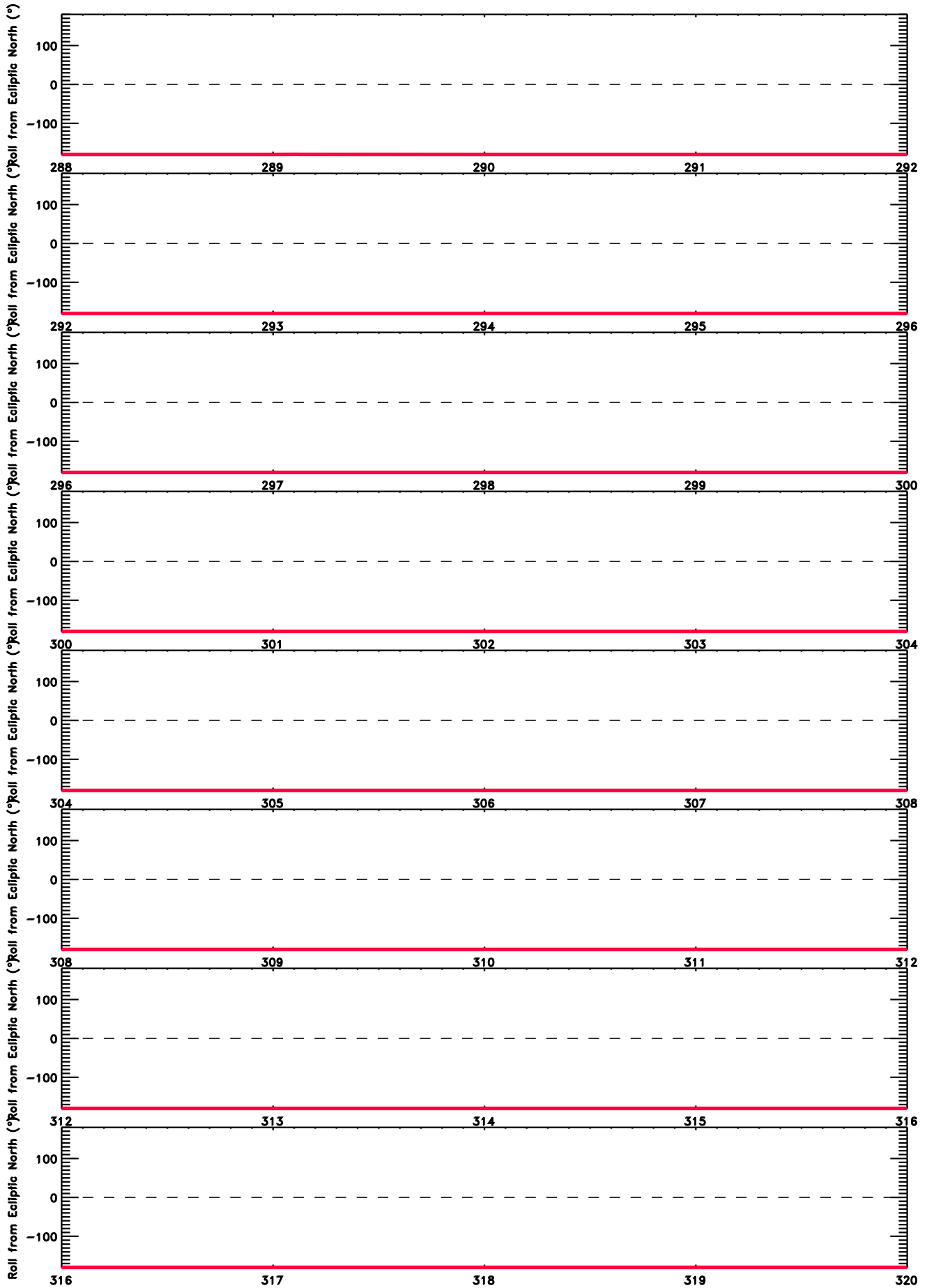
Day of 2020  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



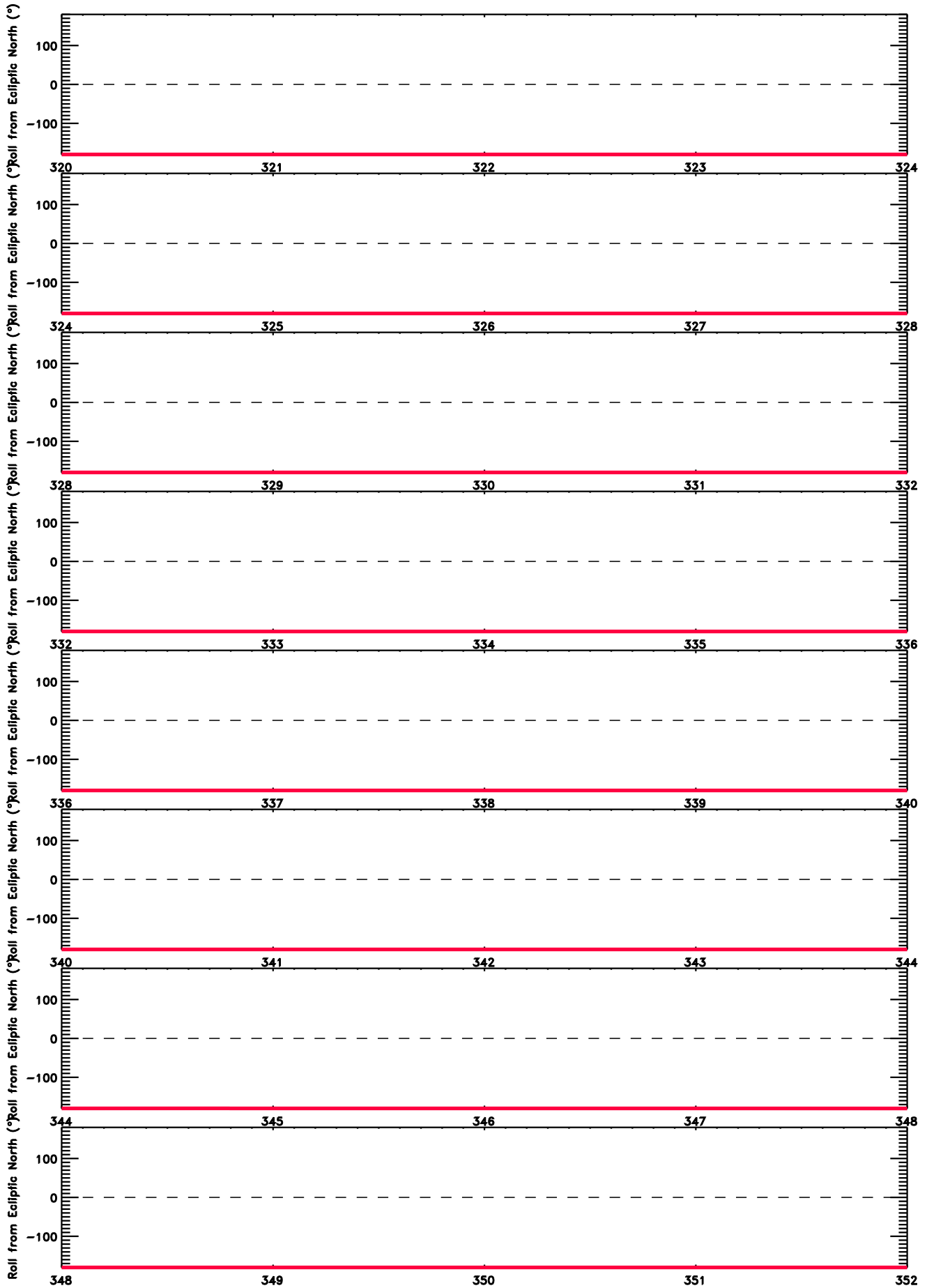
Day of 2020  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



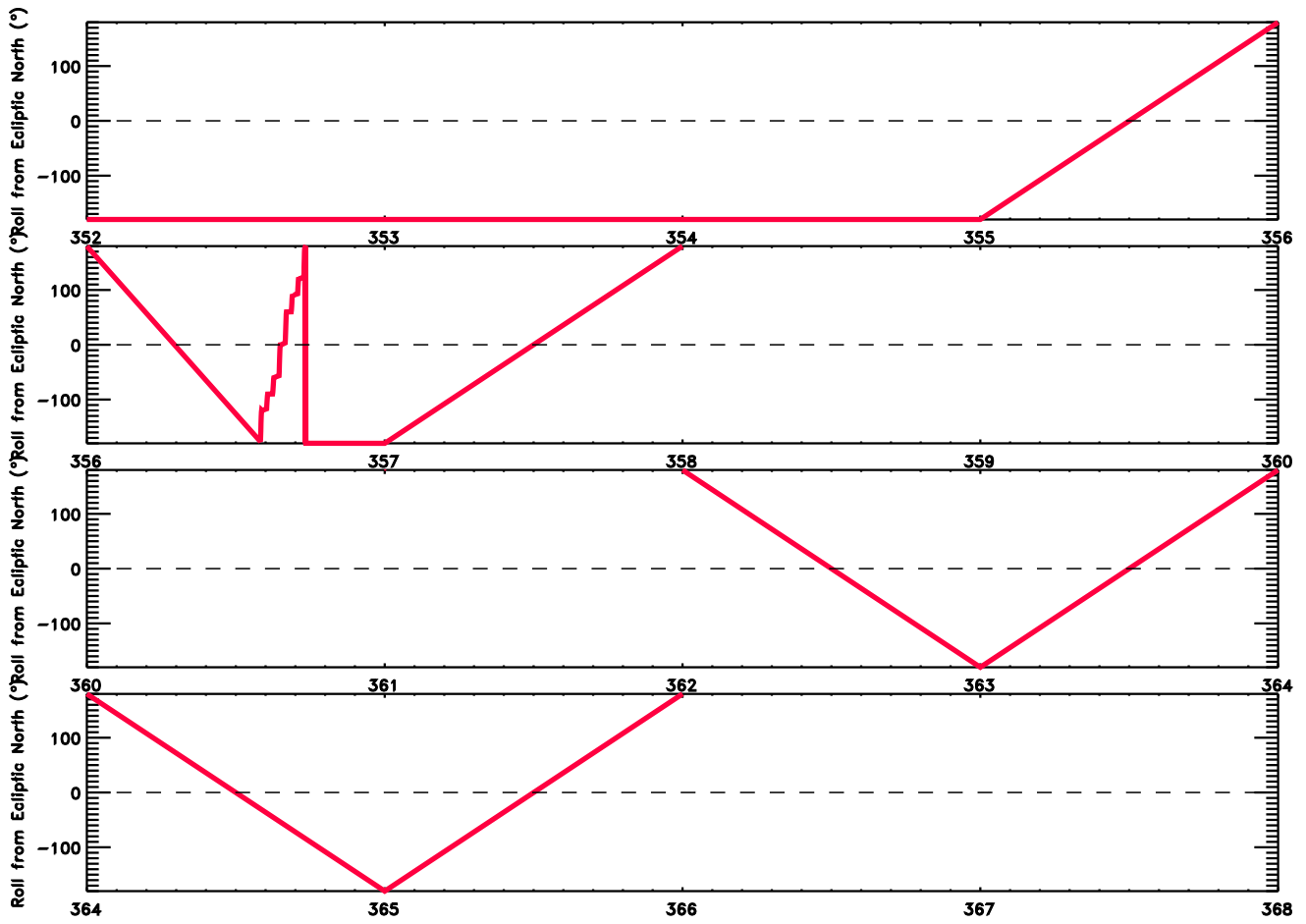
Day of 2020  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



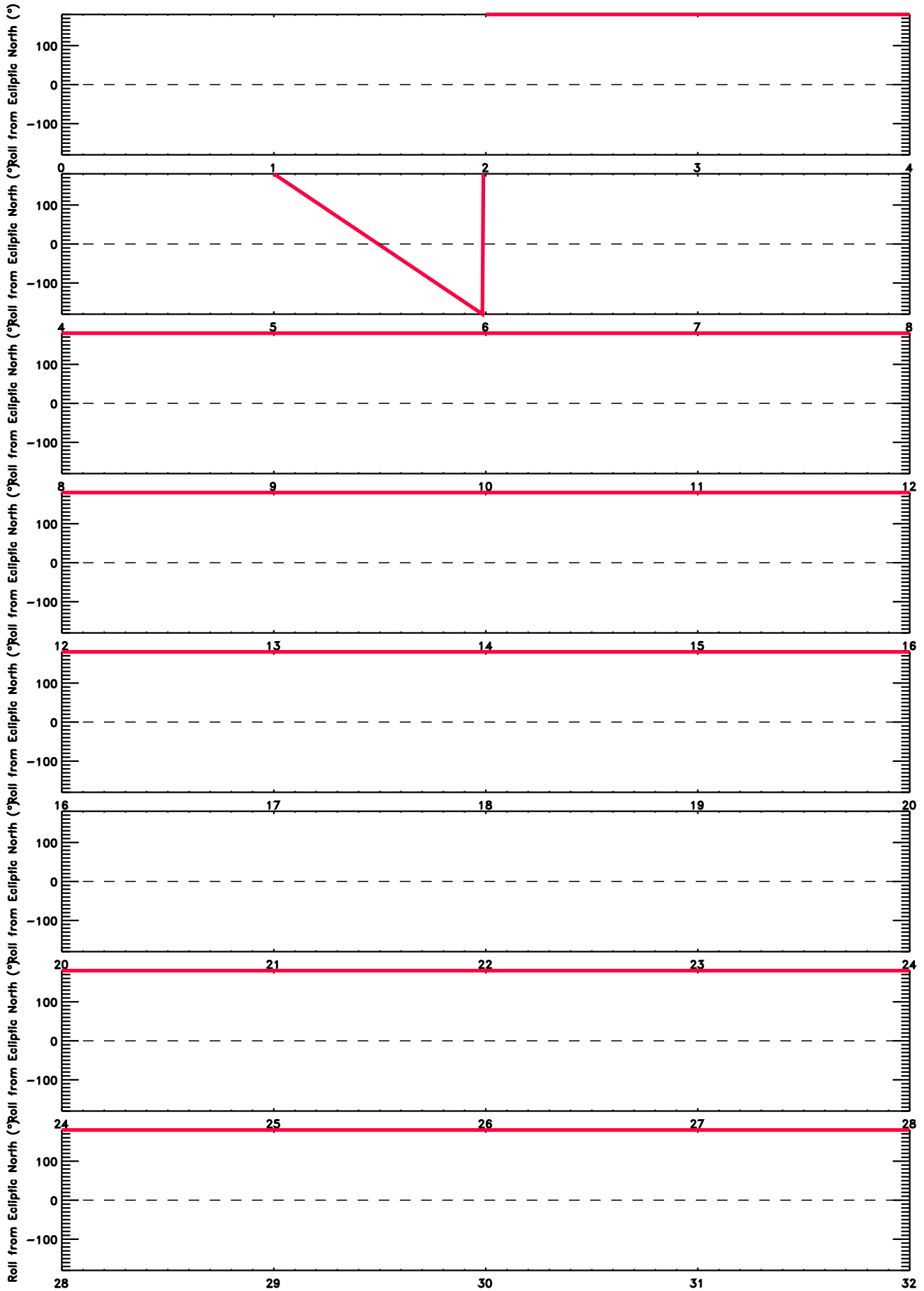
Day of 2020  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



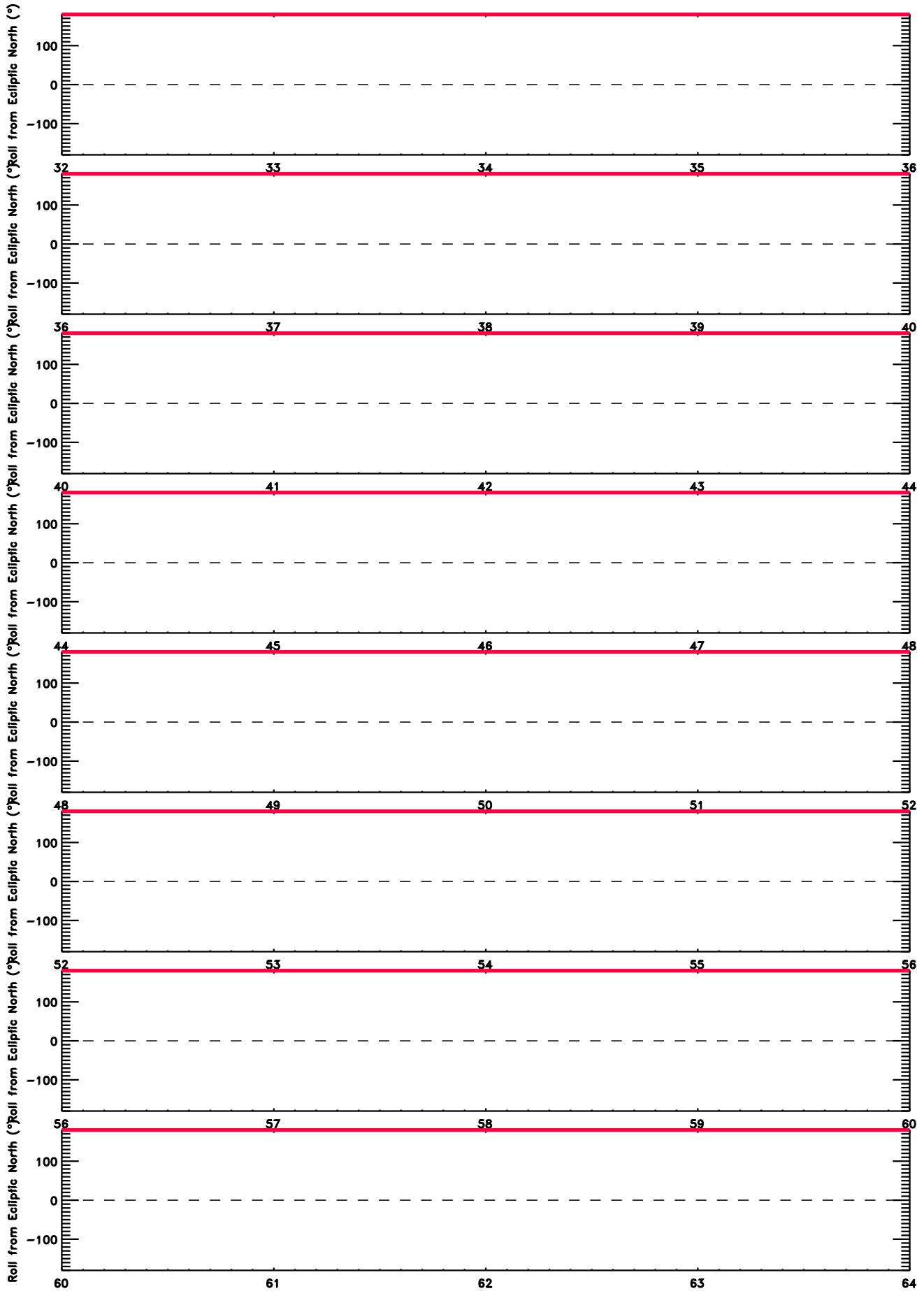
Day of 2020  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2021  
Red = Ahead; Blue = Behind

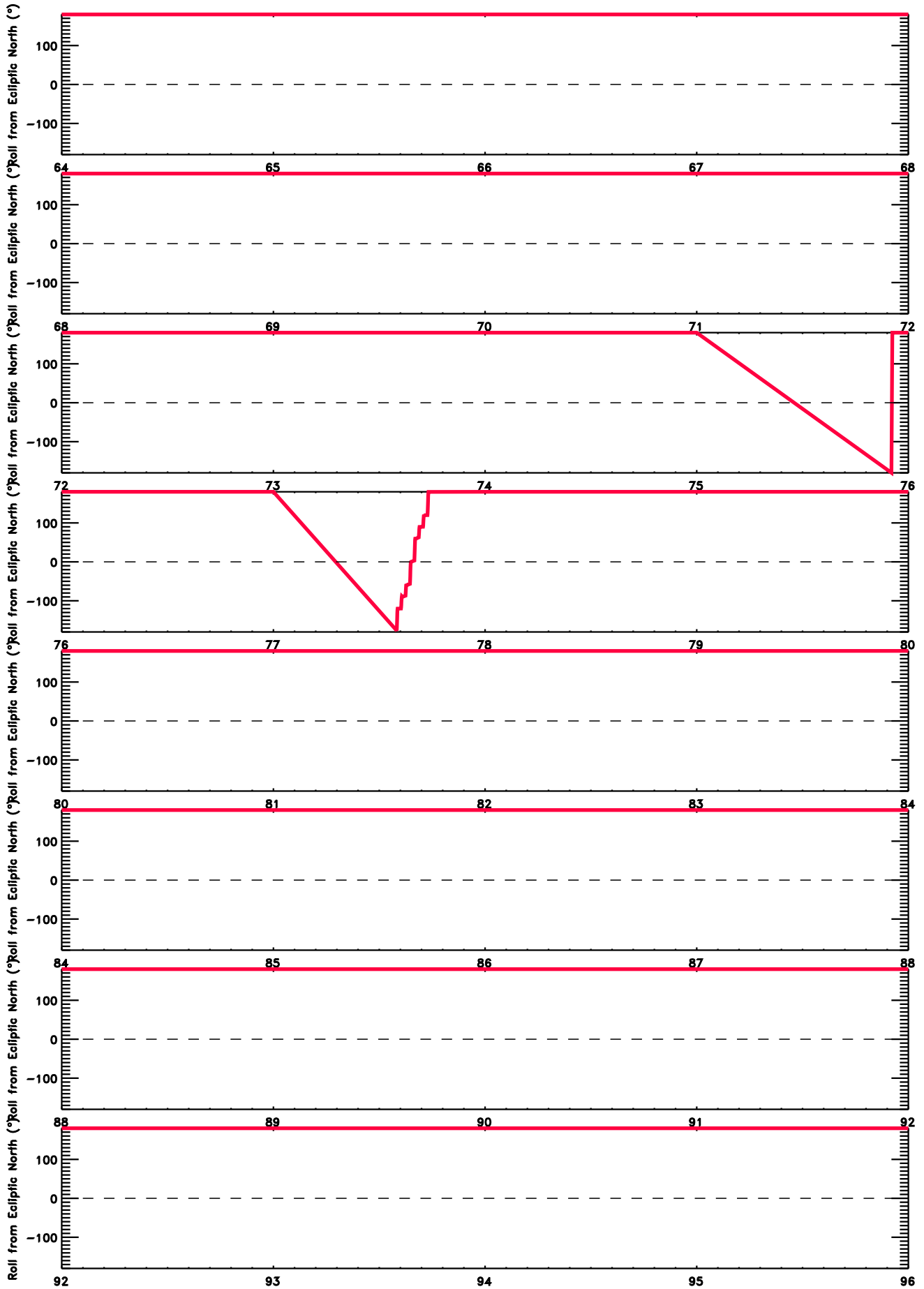
# Roll Angle from Ecliptic North (°)



Day of 2021  
Red = Ahead; Blue = Behind

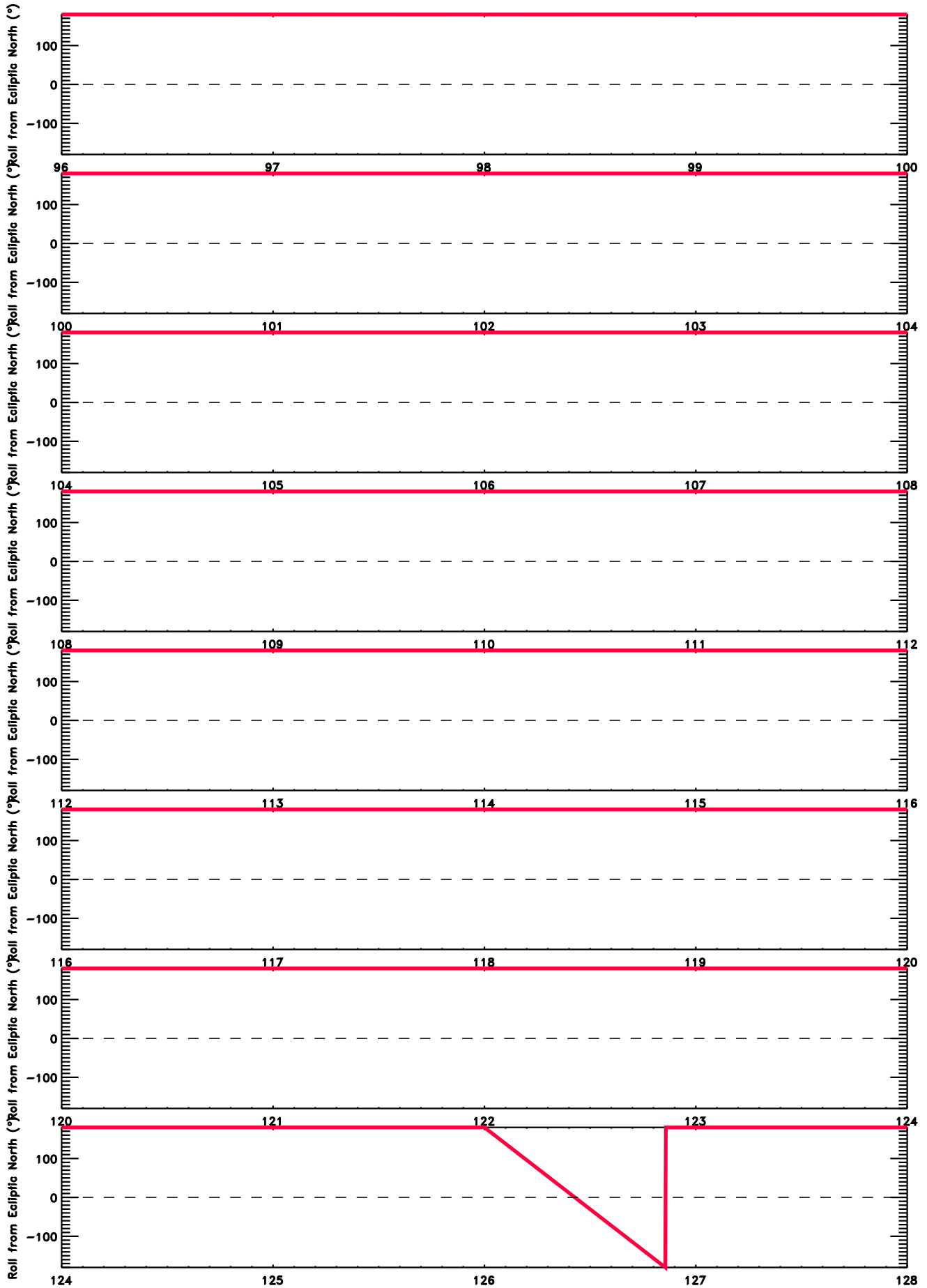


# Roll Angle from Ecliptic North (°)



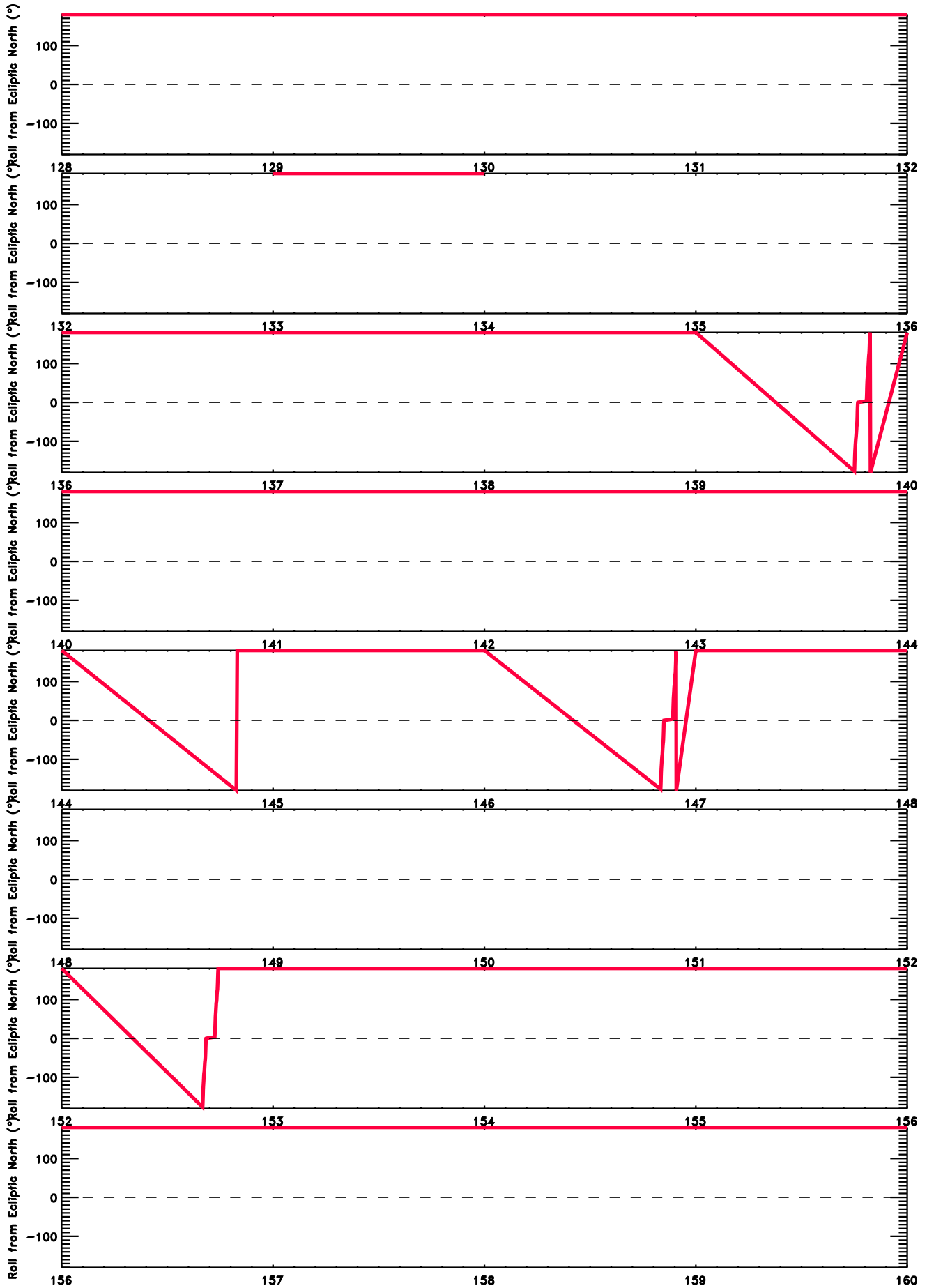
Day of 2021  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



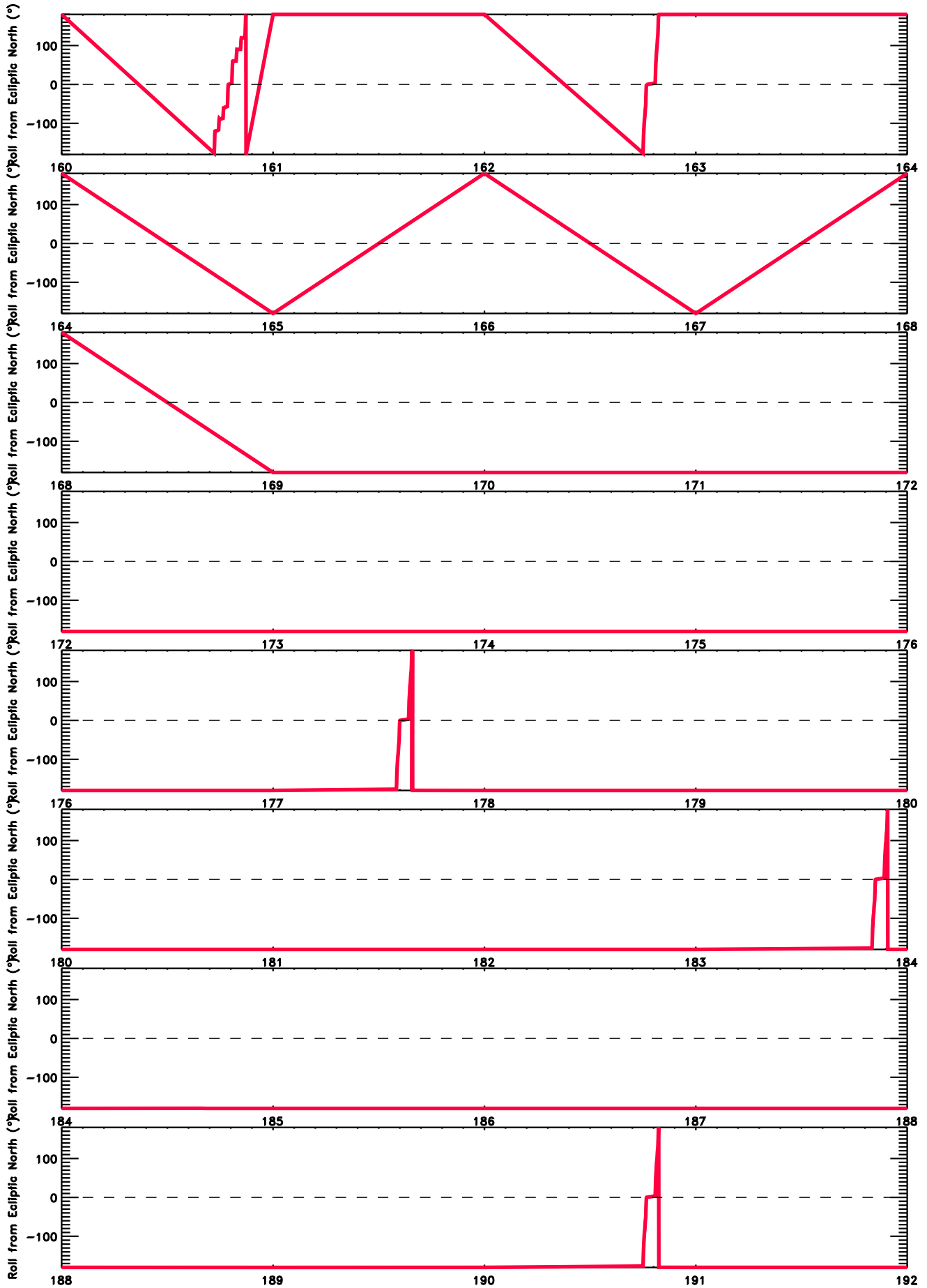
Day of 2021  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



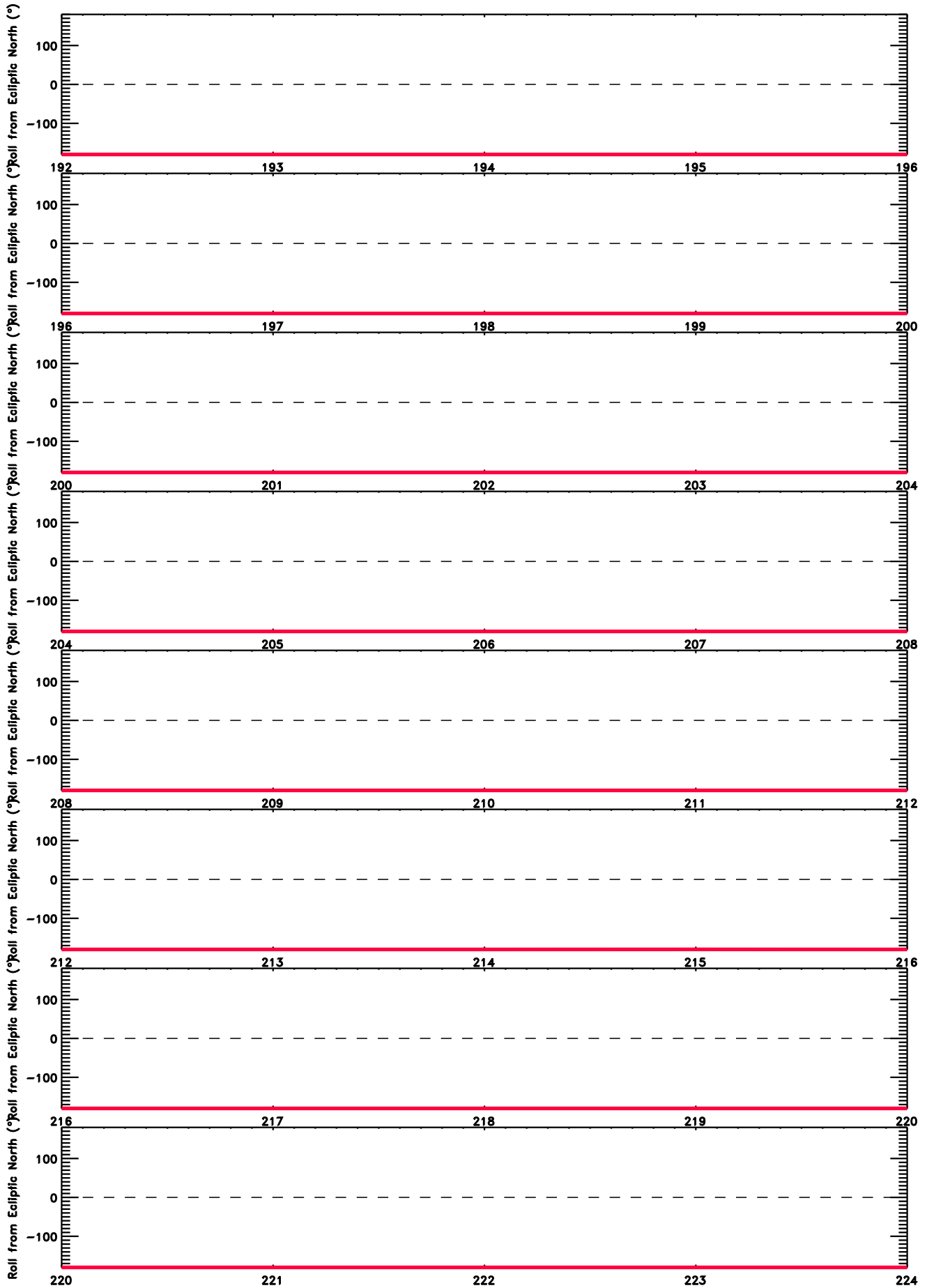
Day of 2021  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



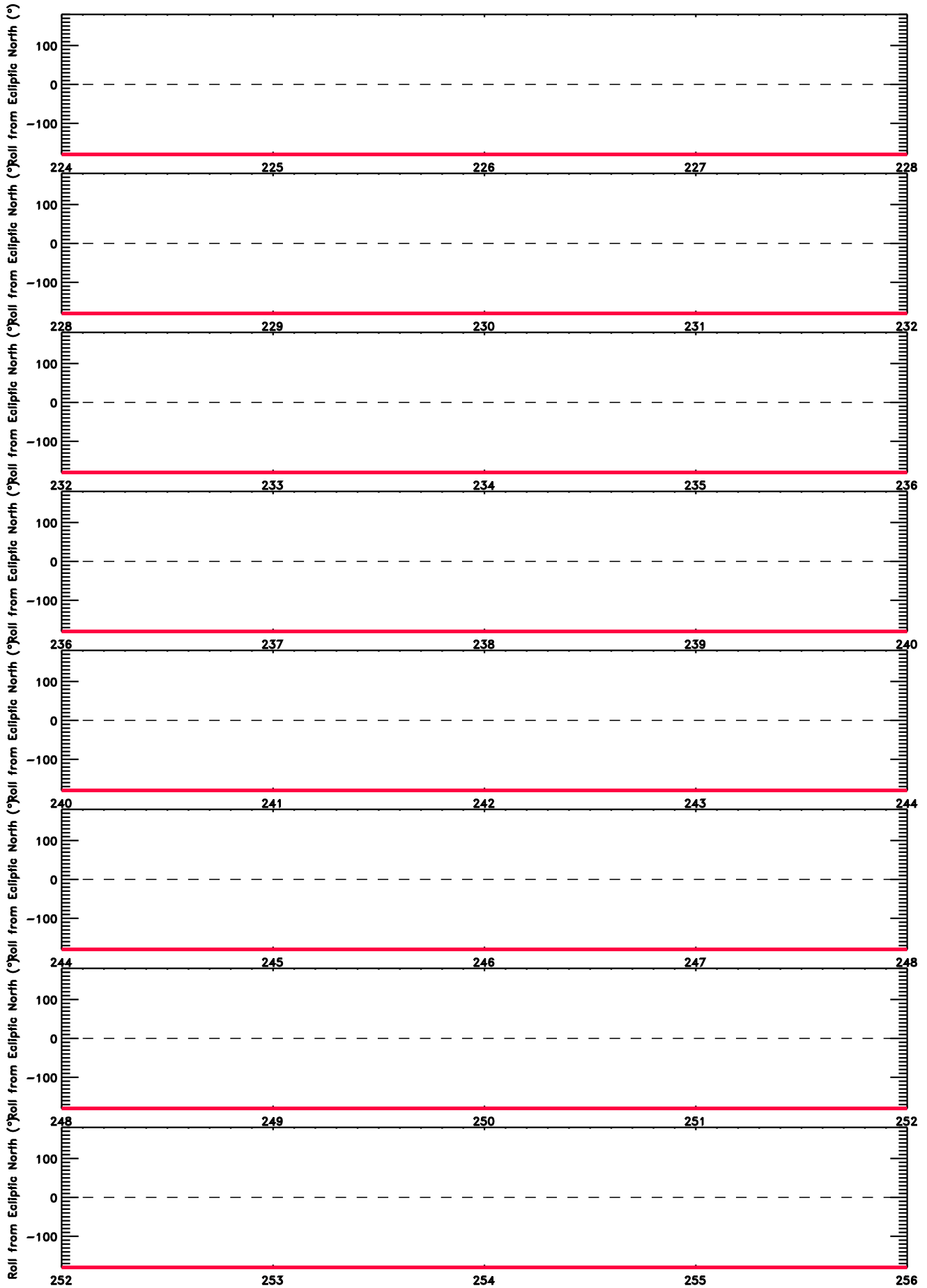
Day of 2021  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



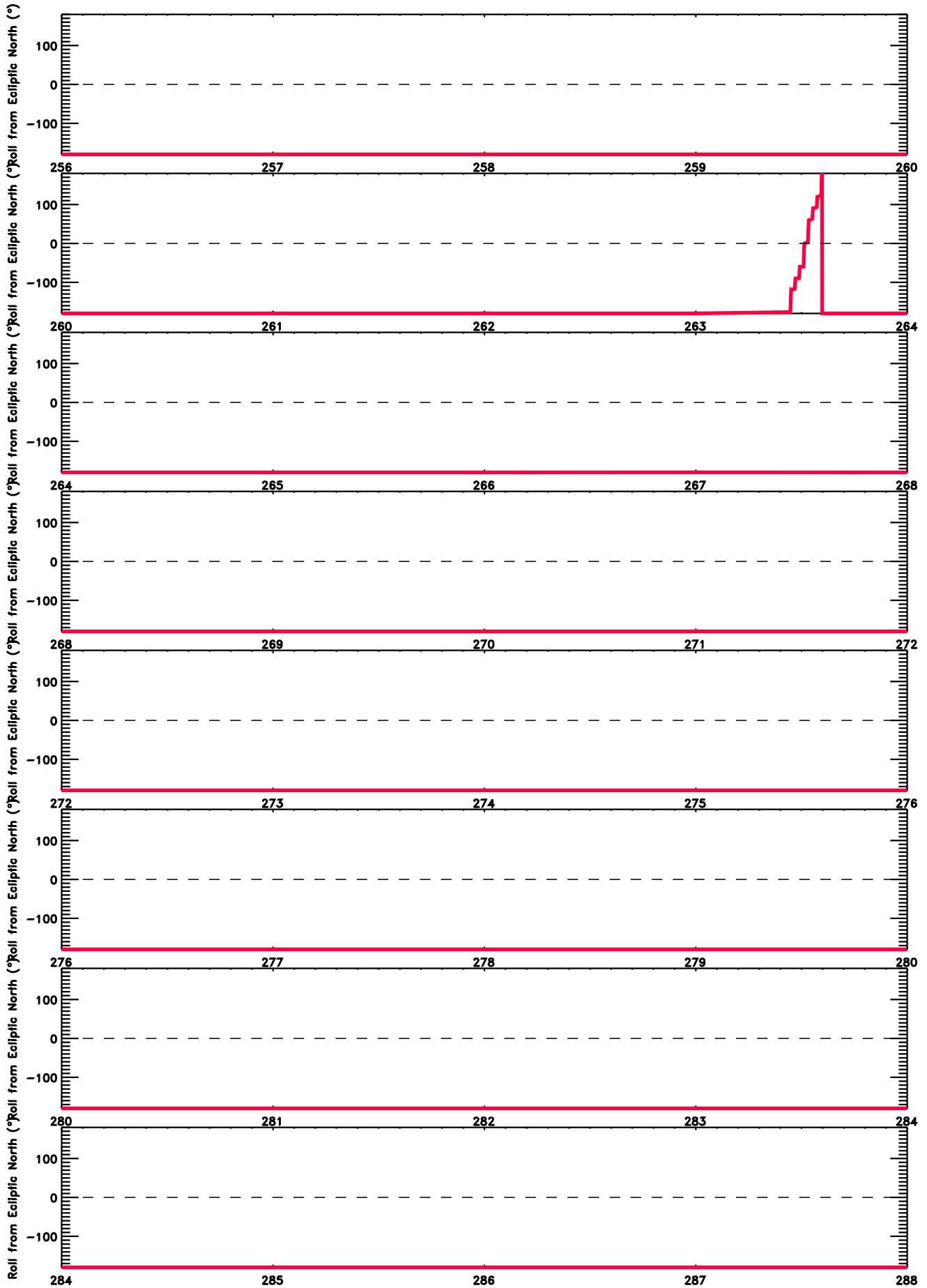
Day of 2021  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



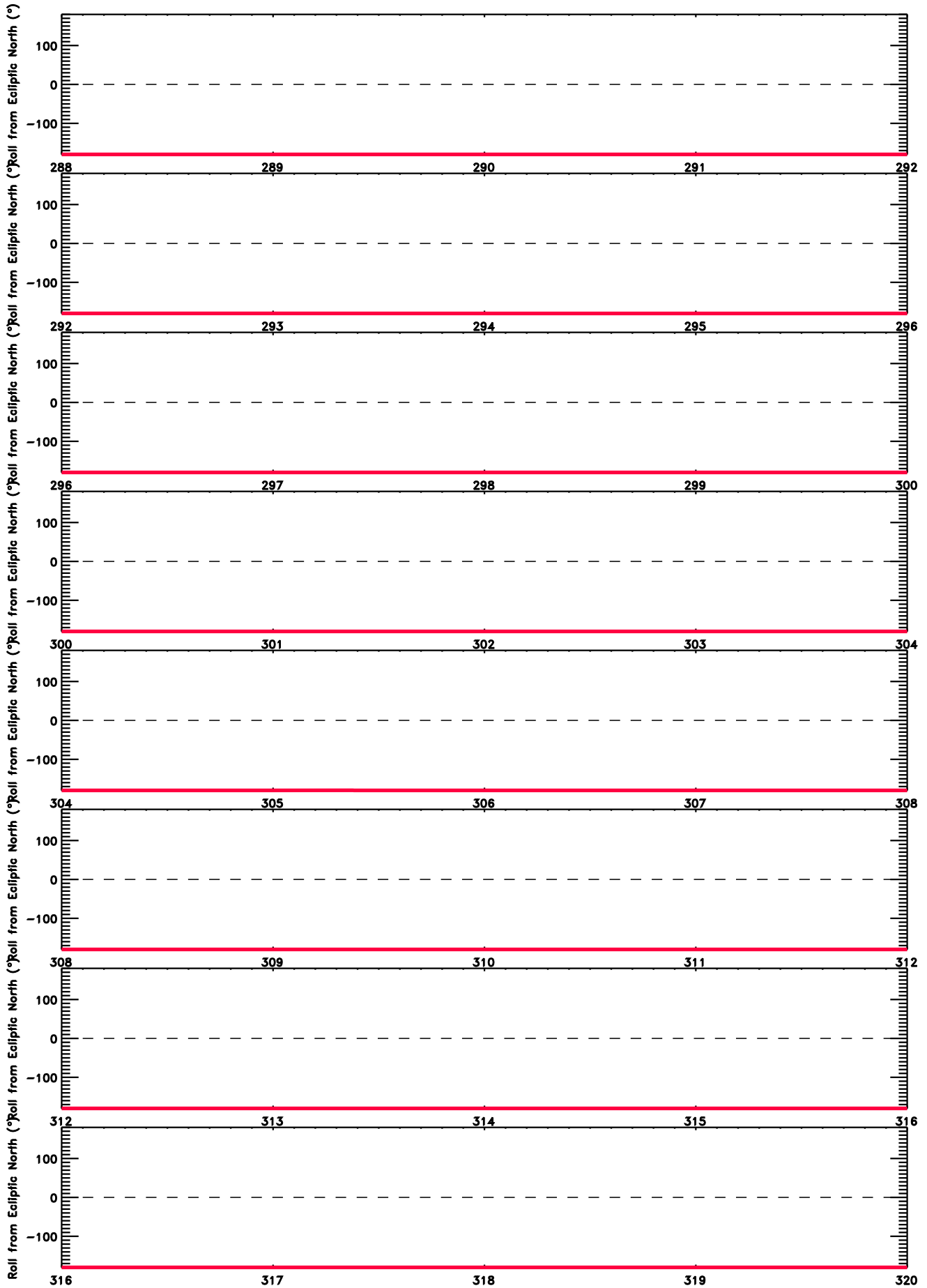
Day of 2021  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2021  
Red = Ahead; Blue = Behind

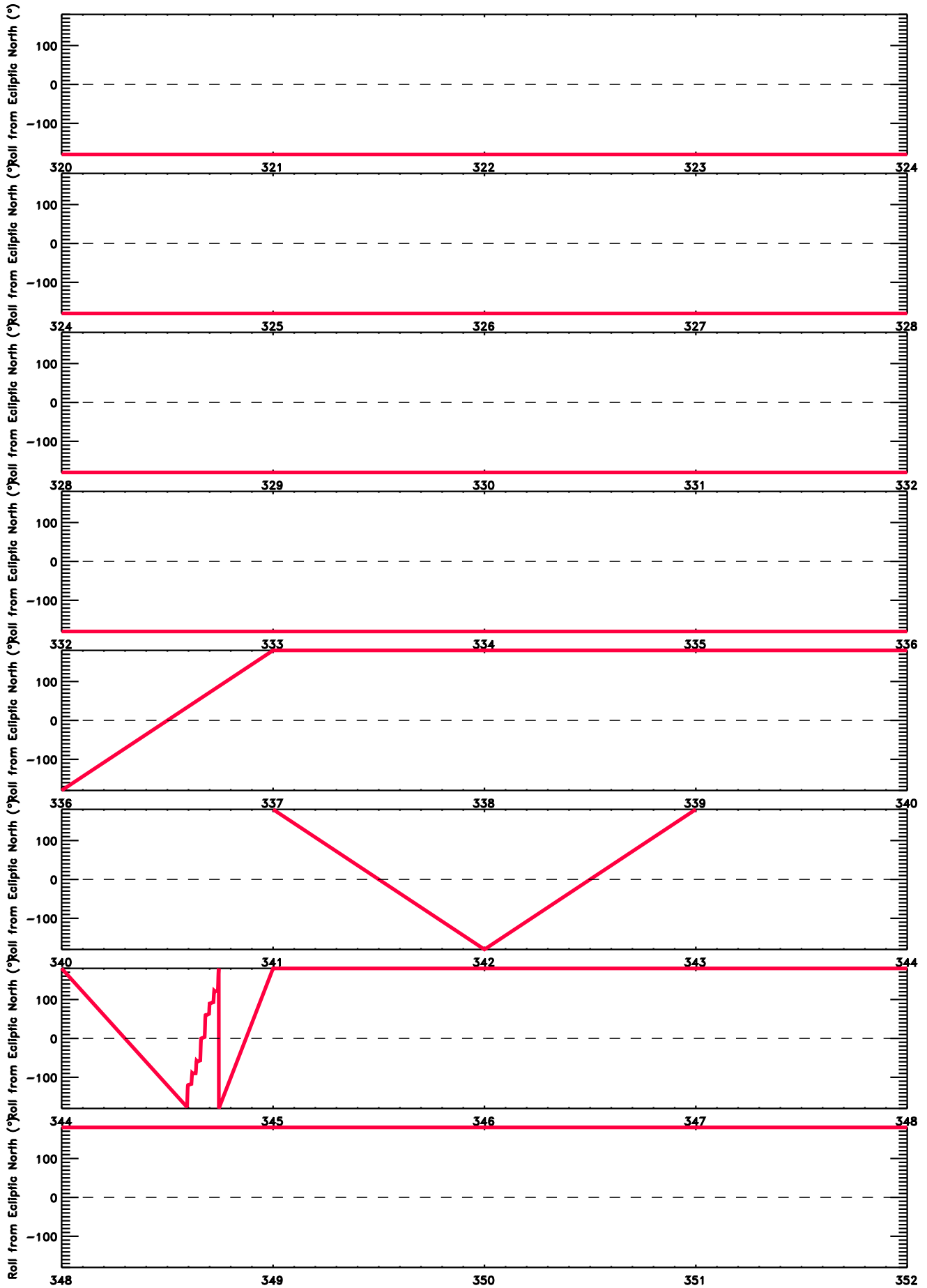
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2021  
Red = Ahead; Blue = Behind

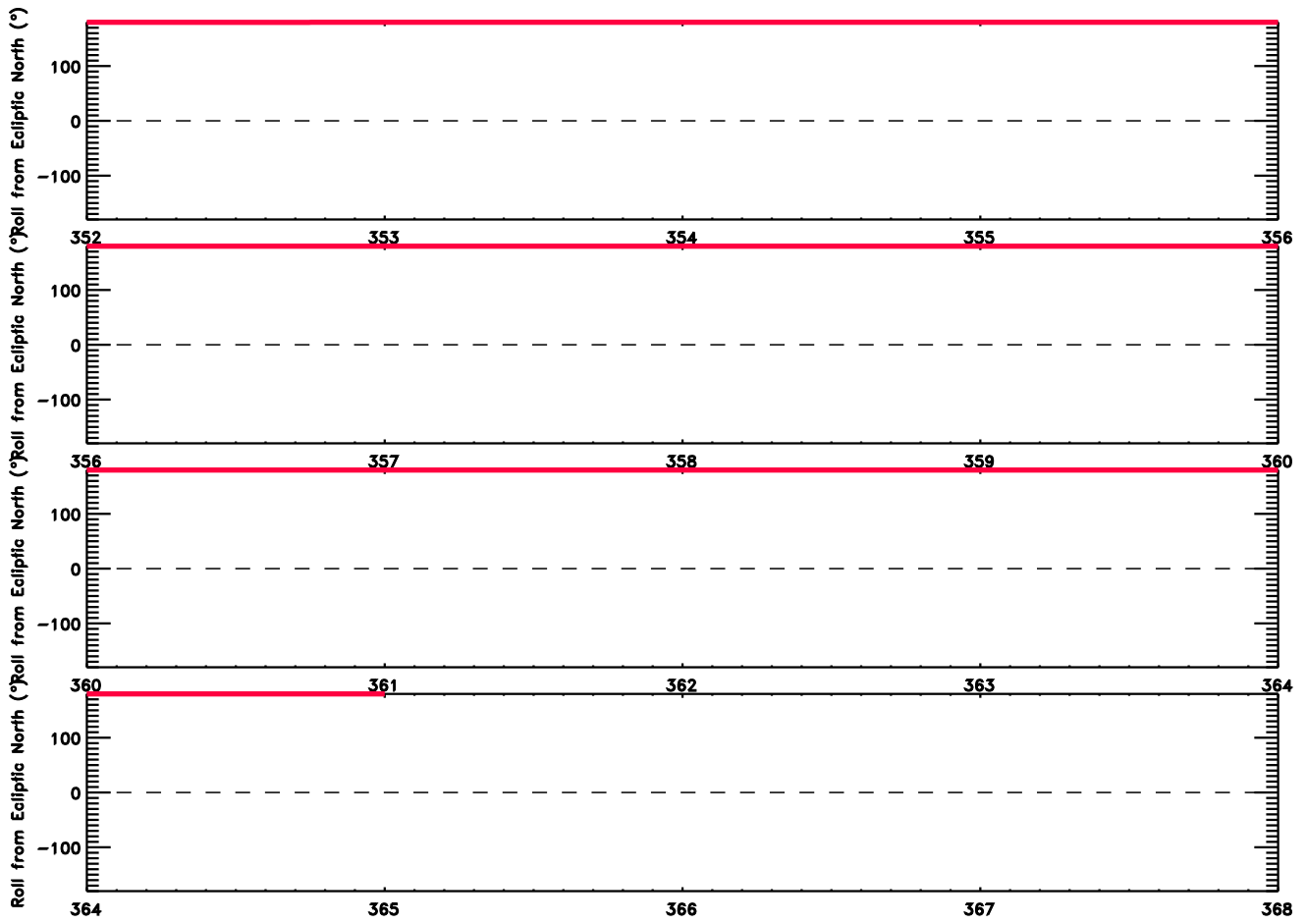


# Roll Angle from Ecliptic North ( $^{\circ}$ )



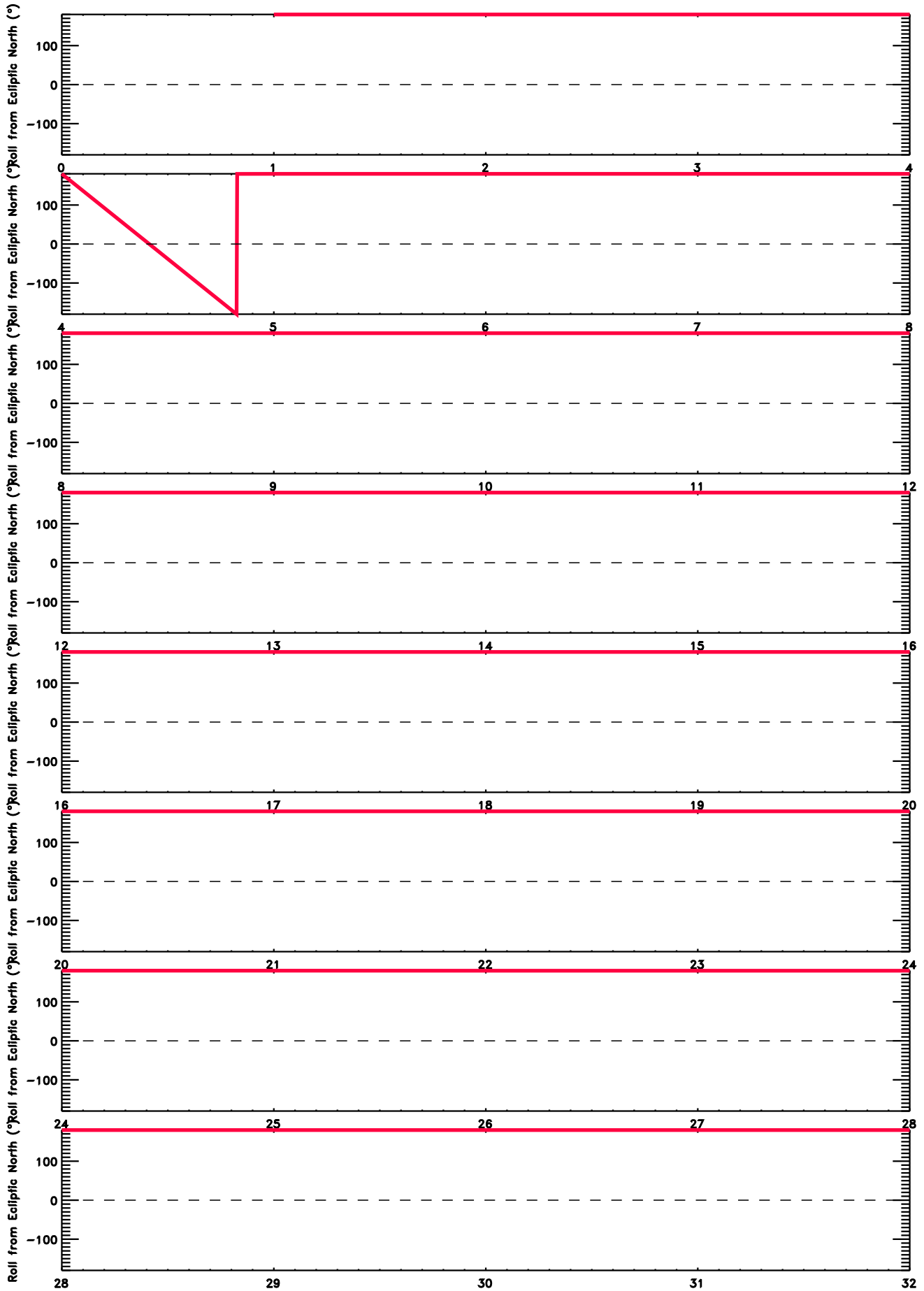
Day of 2021  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



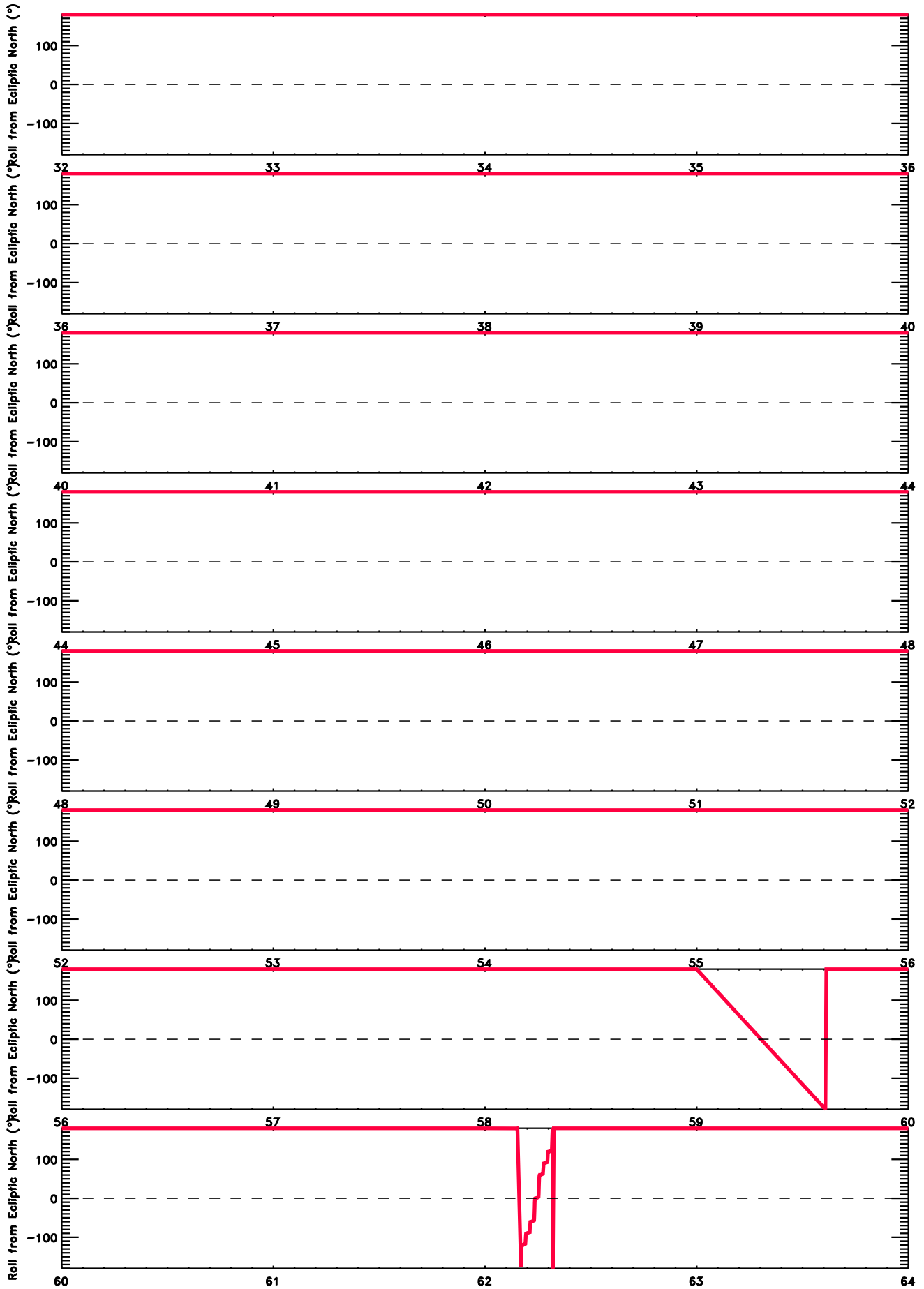
Day of 2021  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



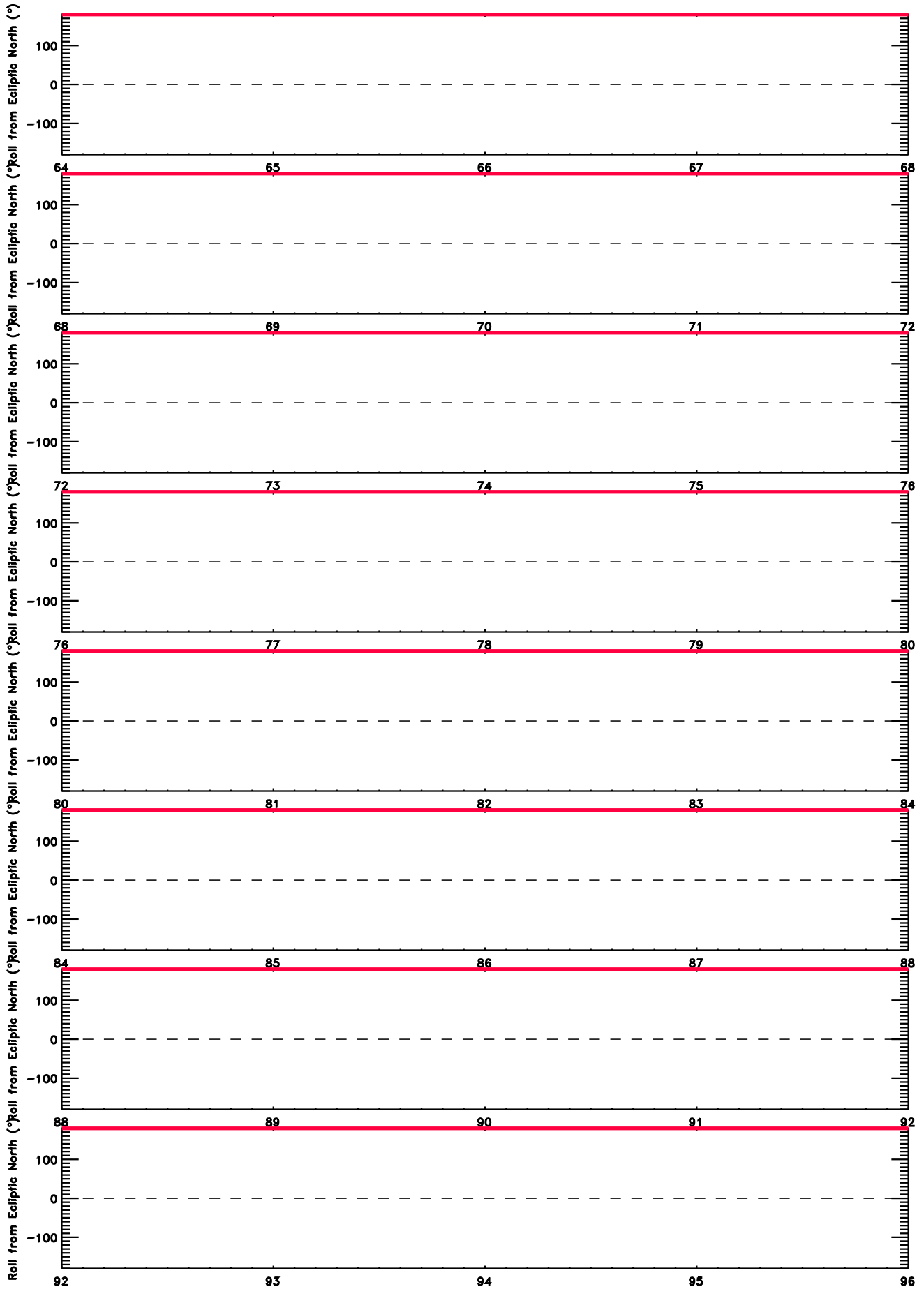
Day of 2022  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



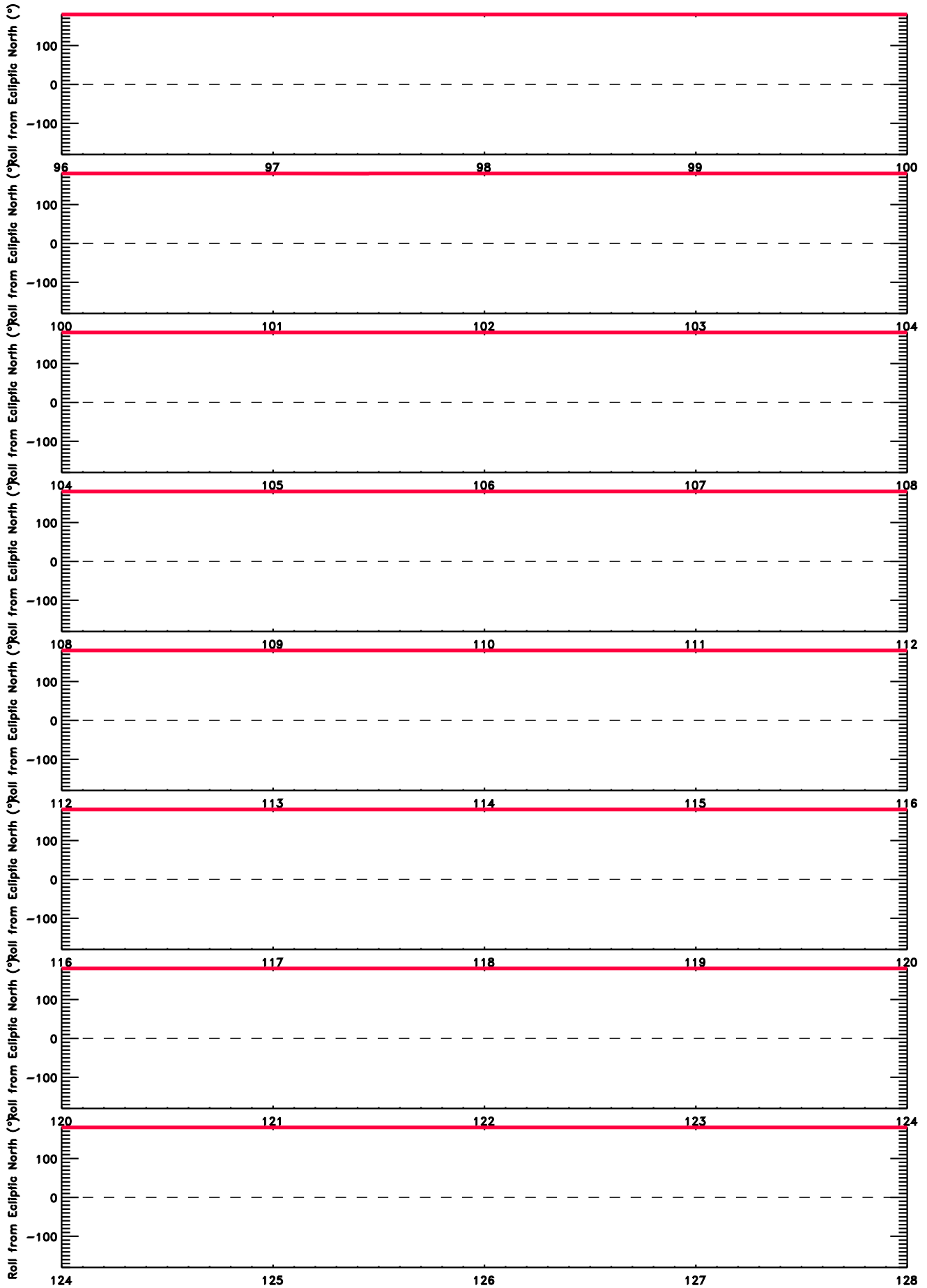
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



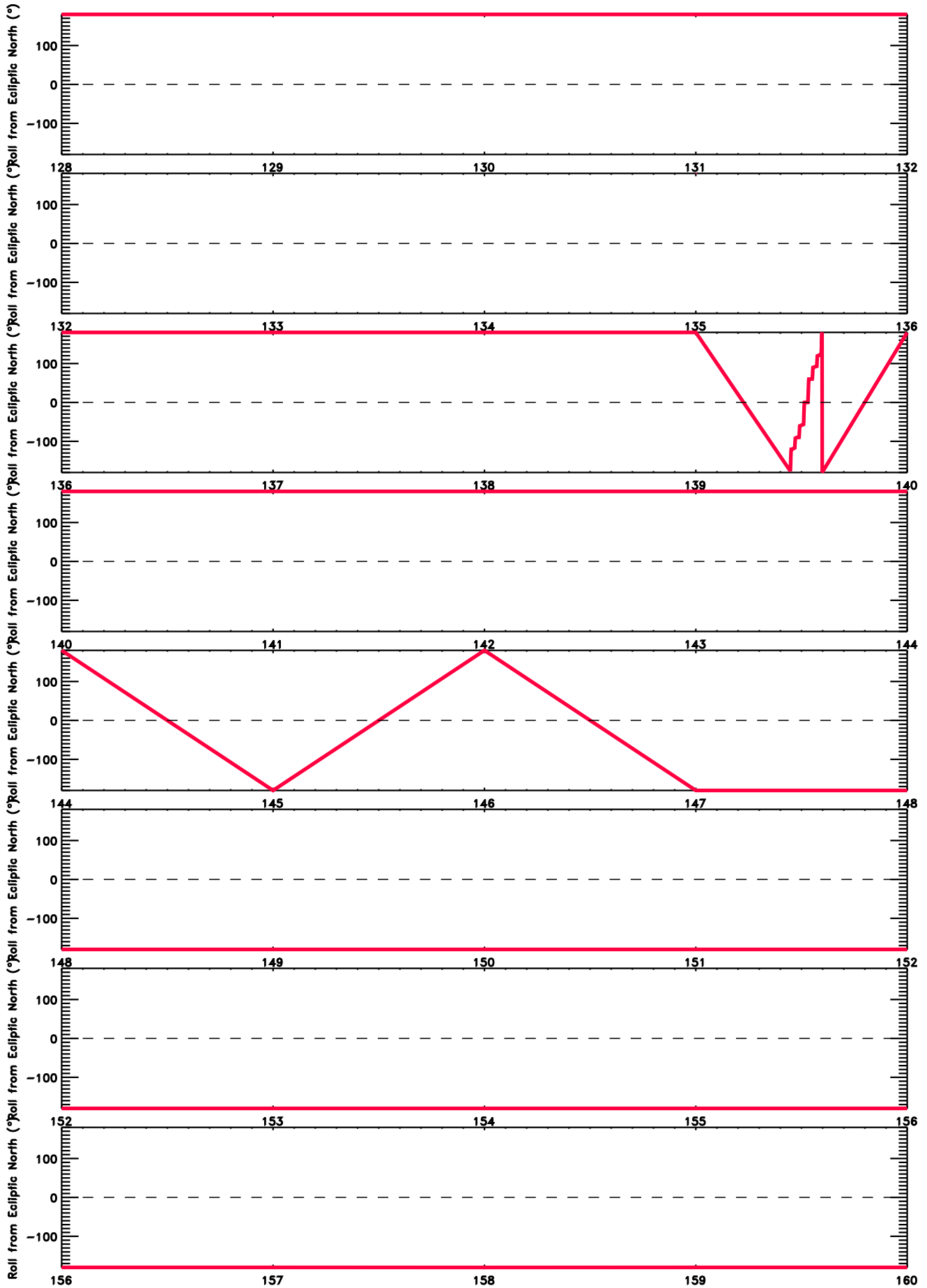
Day of 2022  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



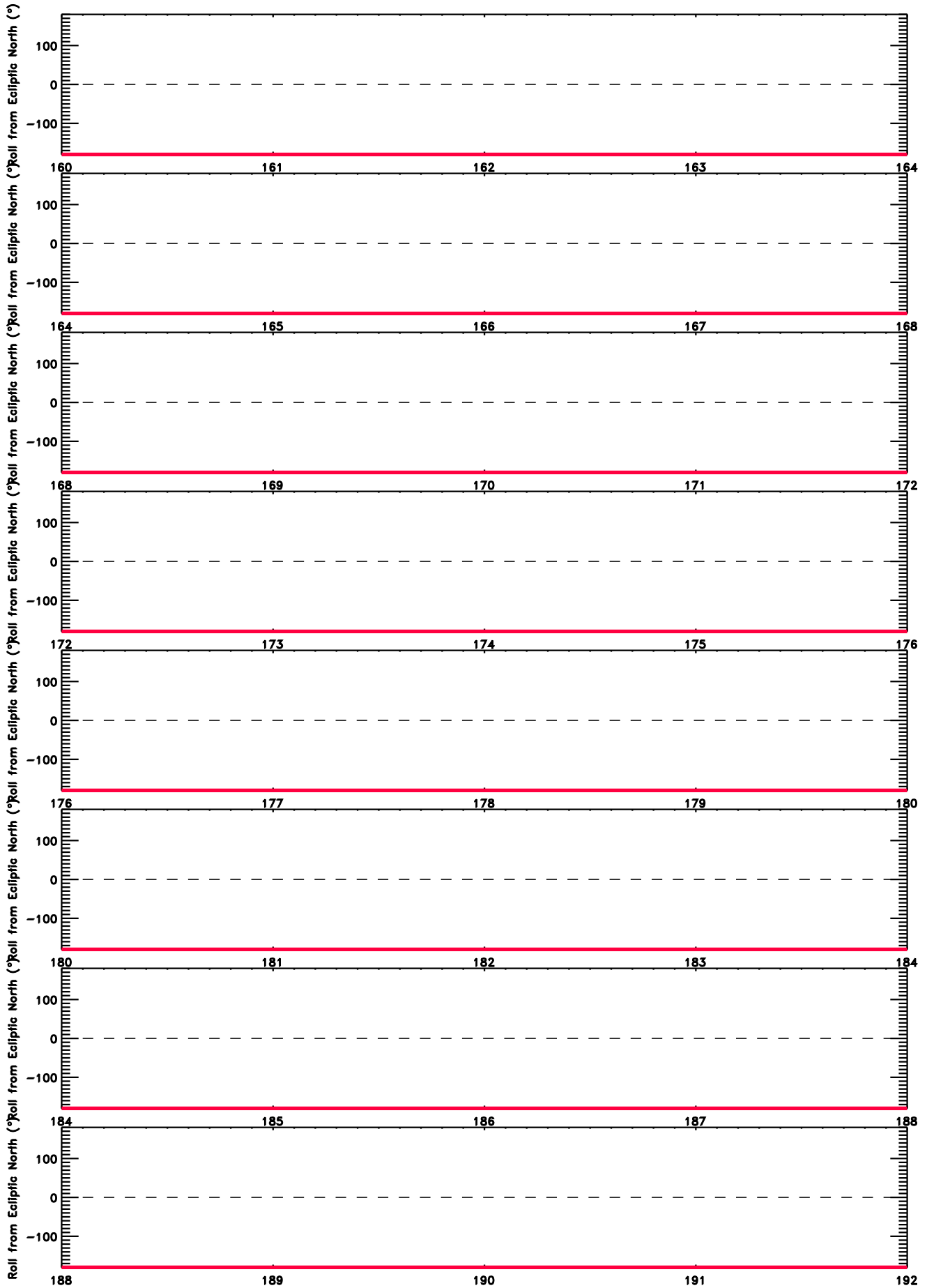
Day of 2022  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2022  
Red = Ahead; Blue = Behind

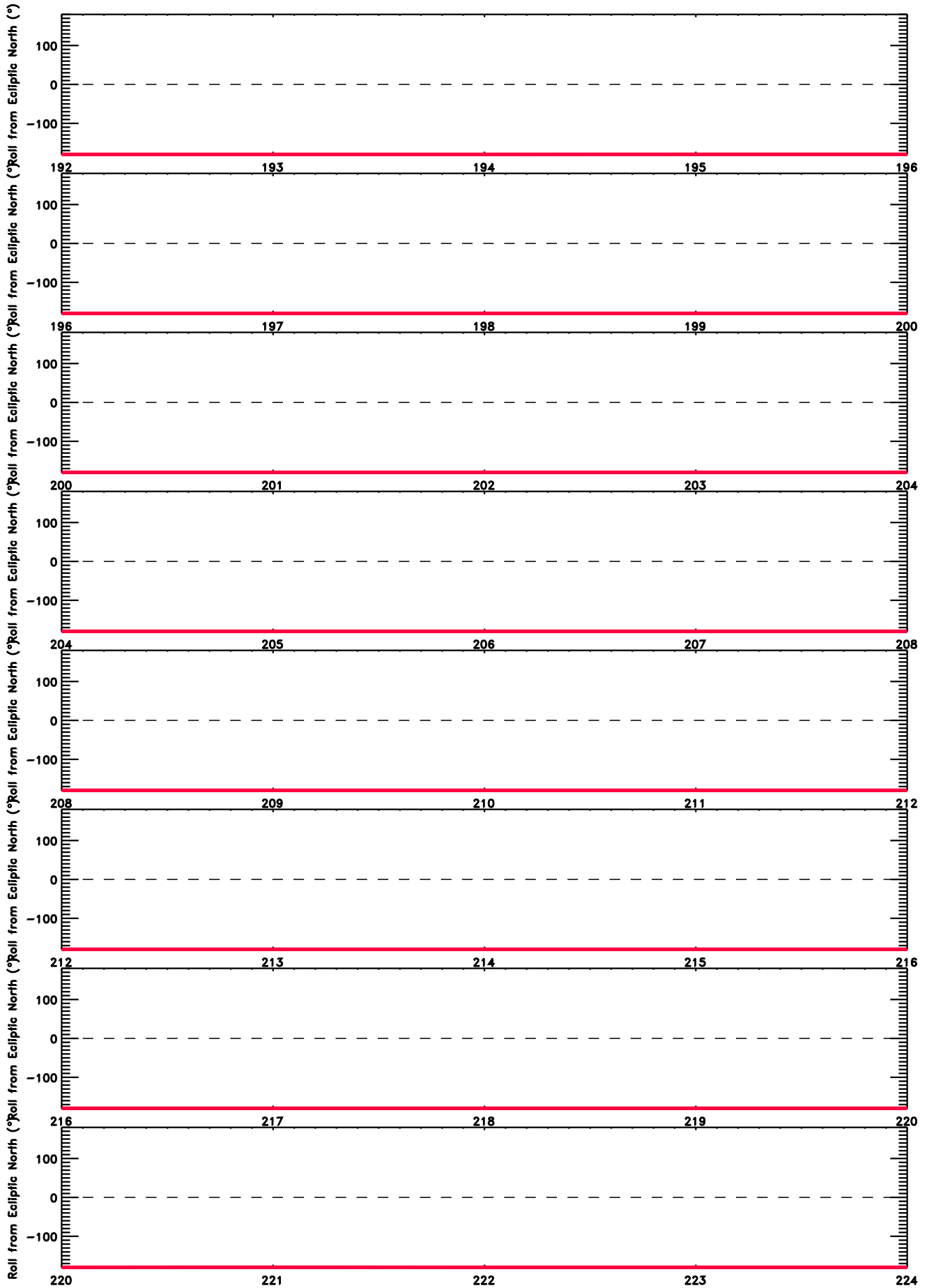
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2022  
Red = Ahead; Blue = Behind

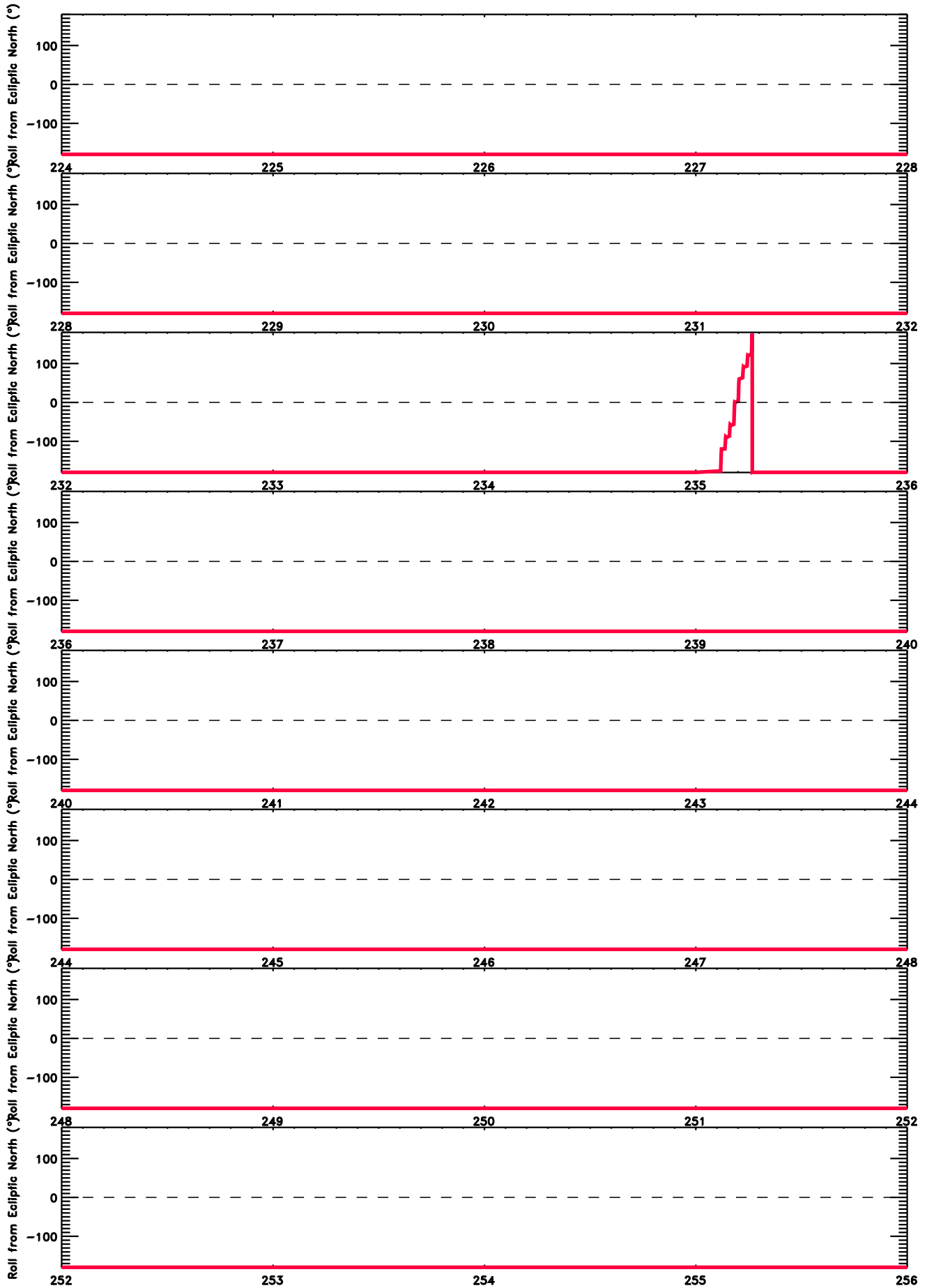


# Roll Angle from Ecliptic North ( $^{\circ}$ )



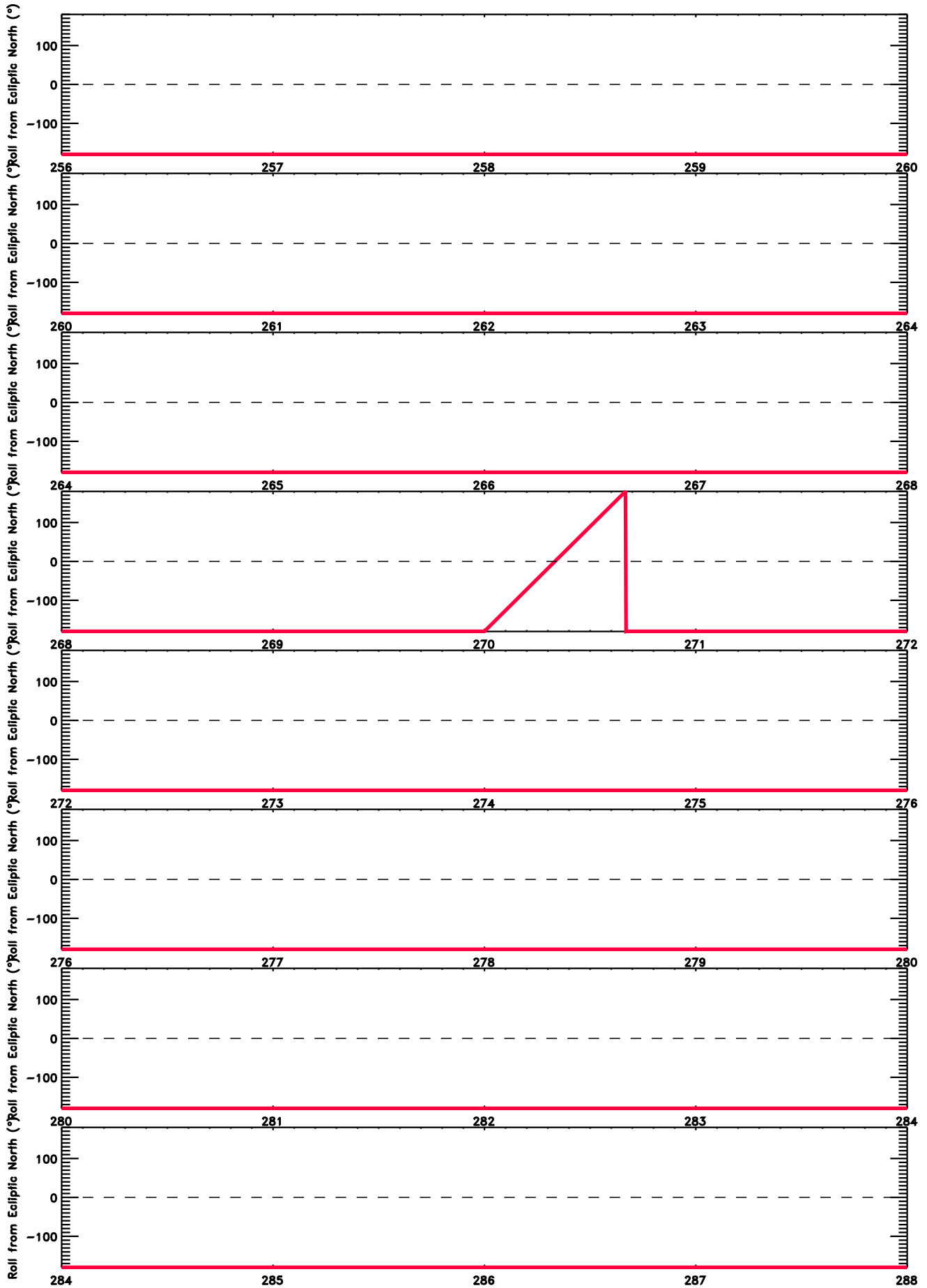
Day of 2022  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



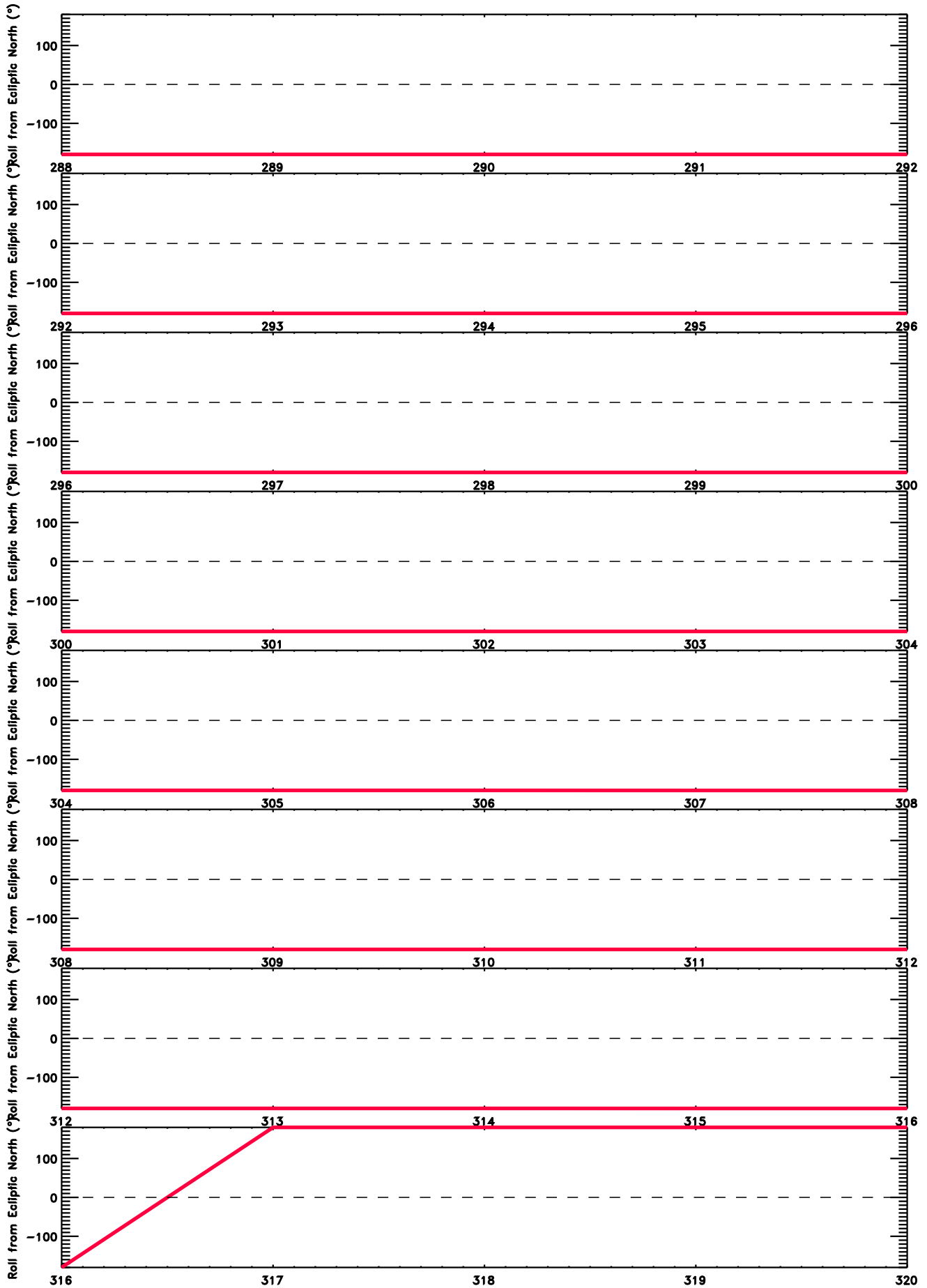
Day of 2022  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



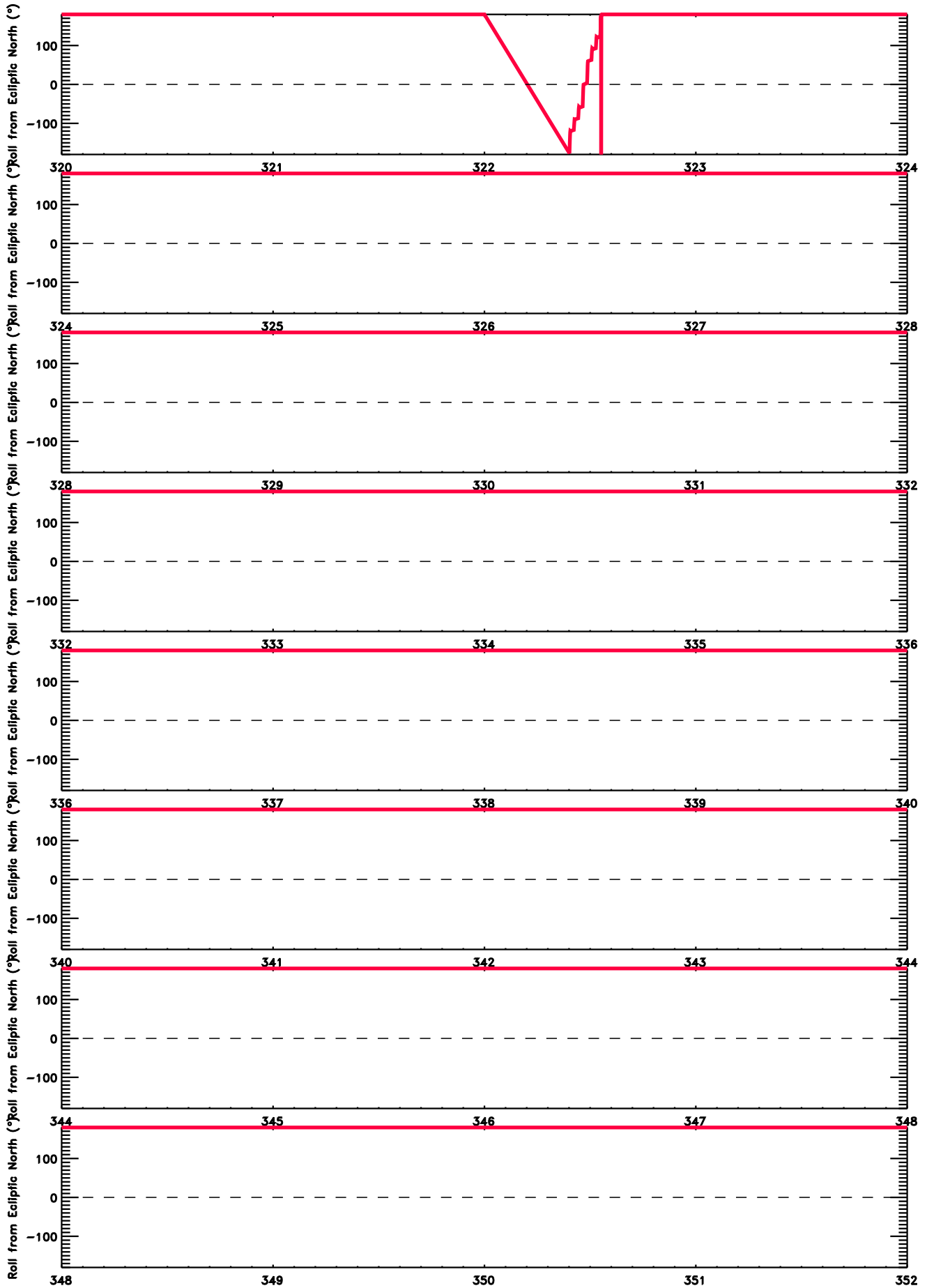
Day of 2022  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



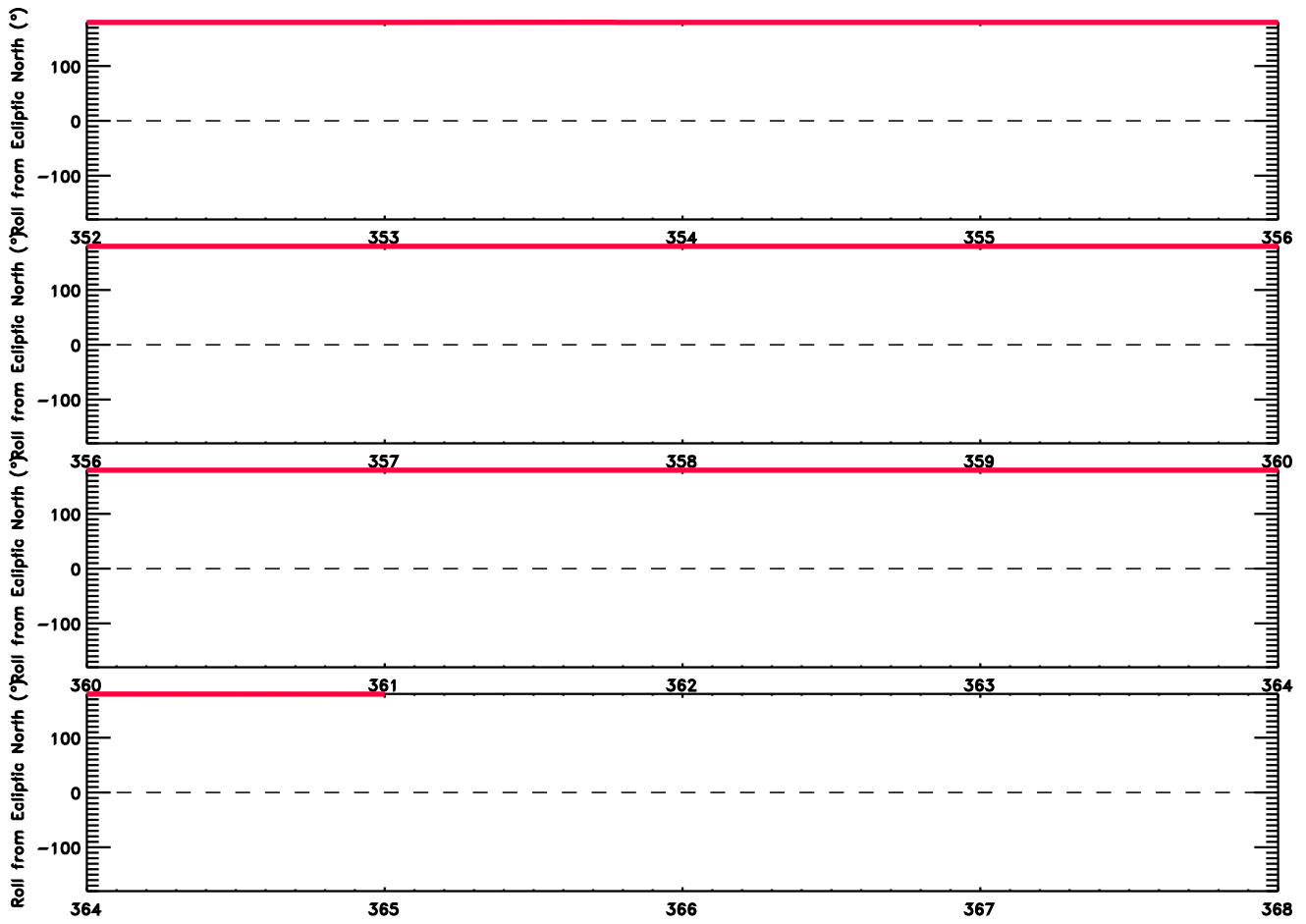
Day of 2022  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



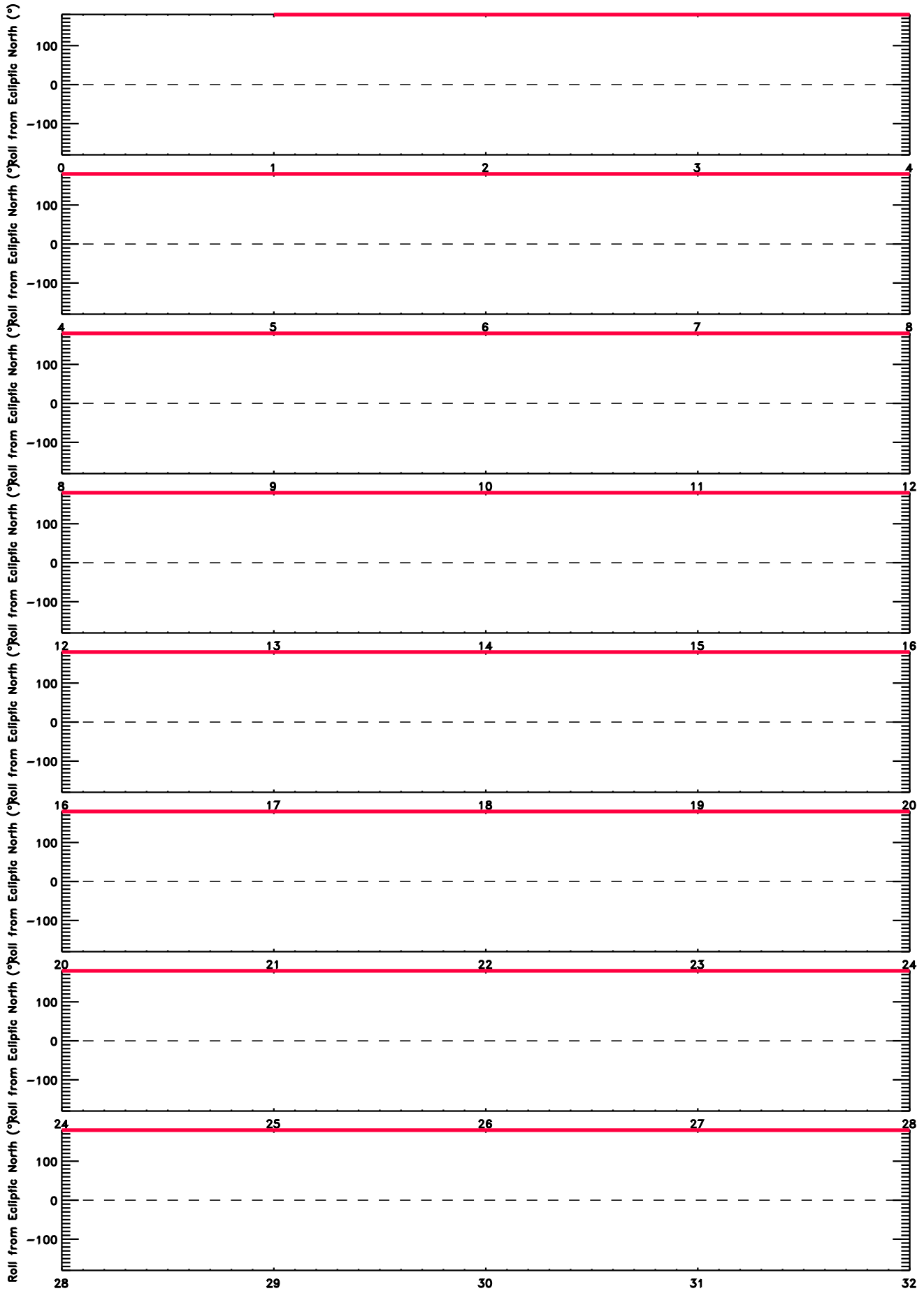
Day of 2022  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



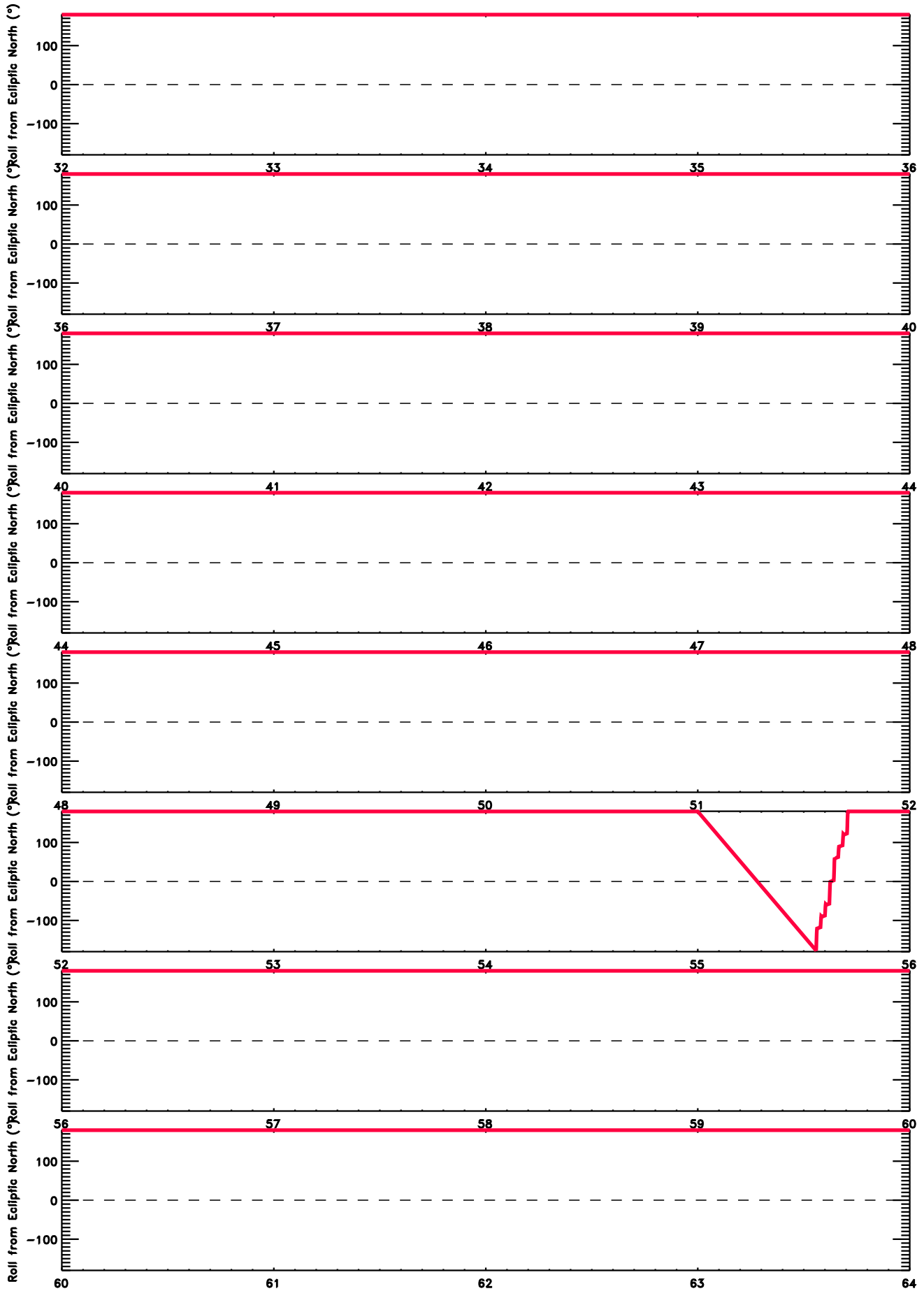
Day of 2022  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2023  
Red = Ahead; Blue = Behind

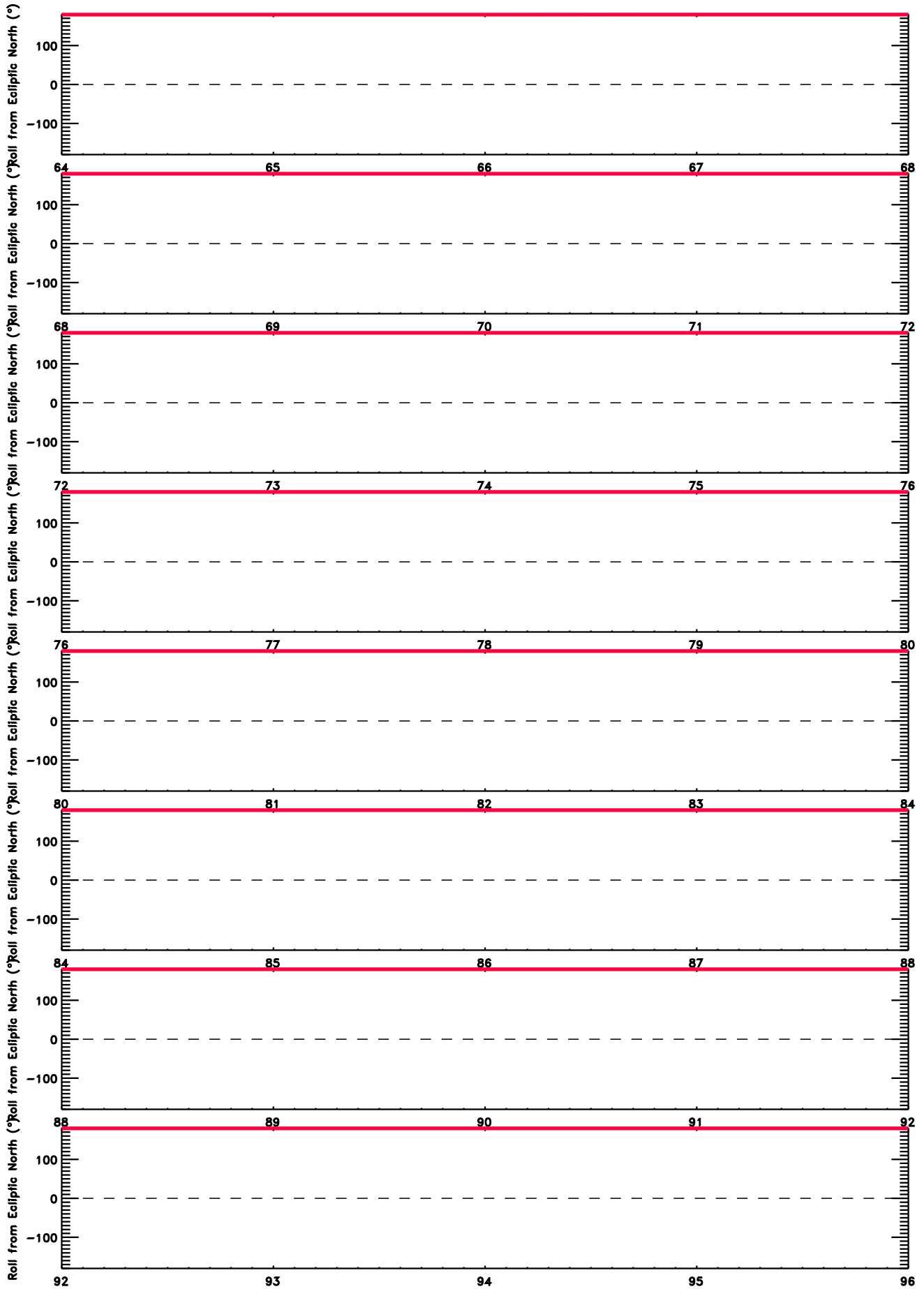
# Roll Angle from Ecliptic North (°)



Red = Ahead; Blue = Behind

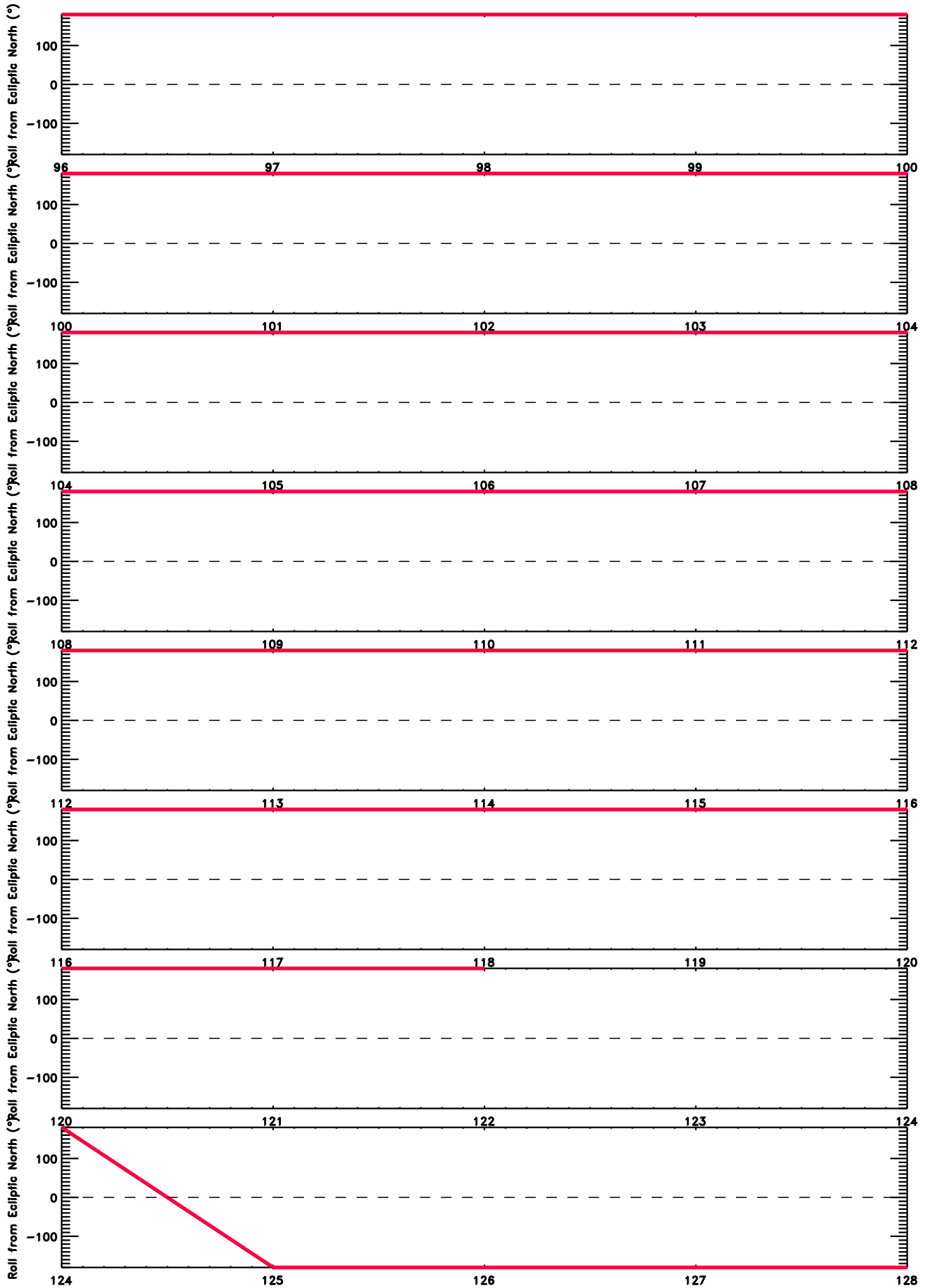


# Roll Angle from Ecliptic North (°)



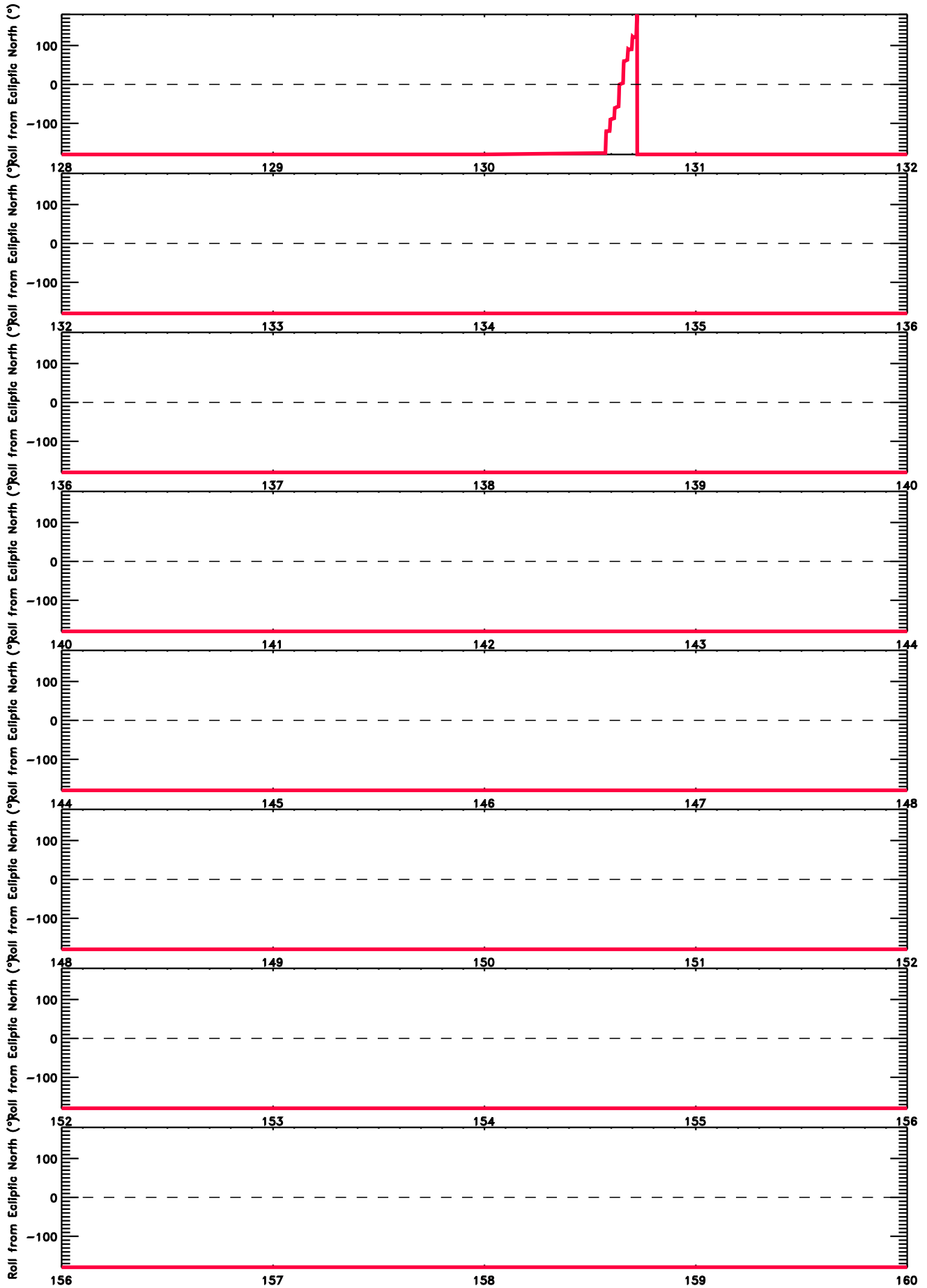
Day of 2023  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



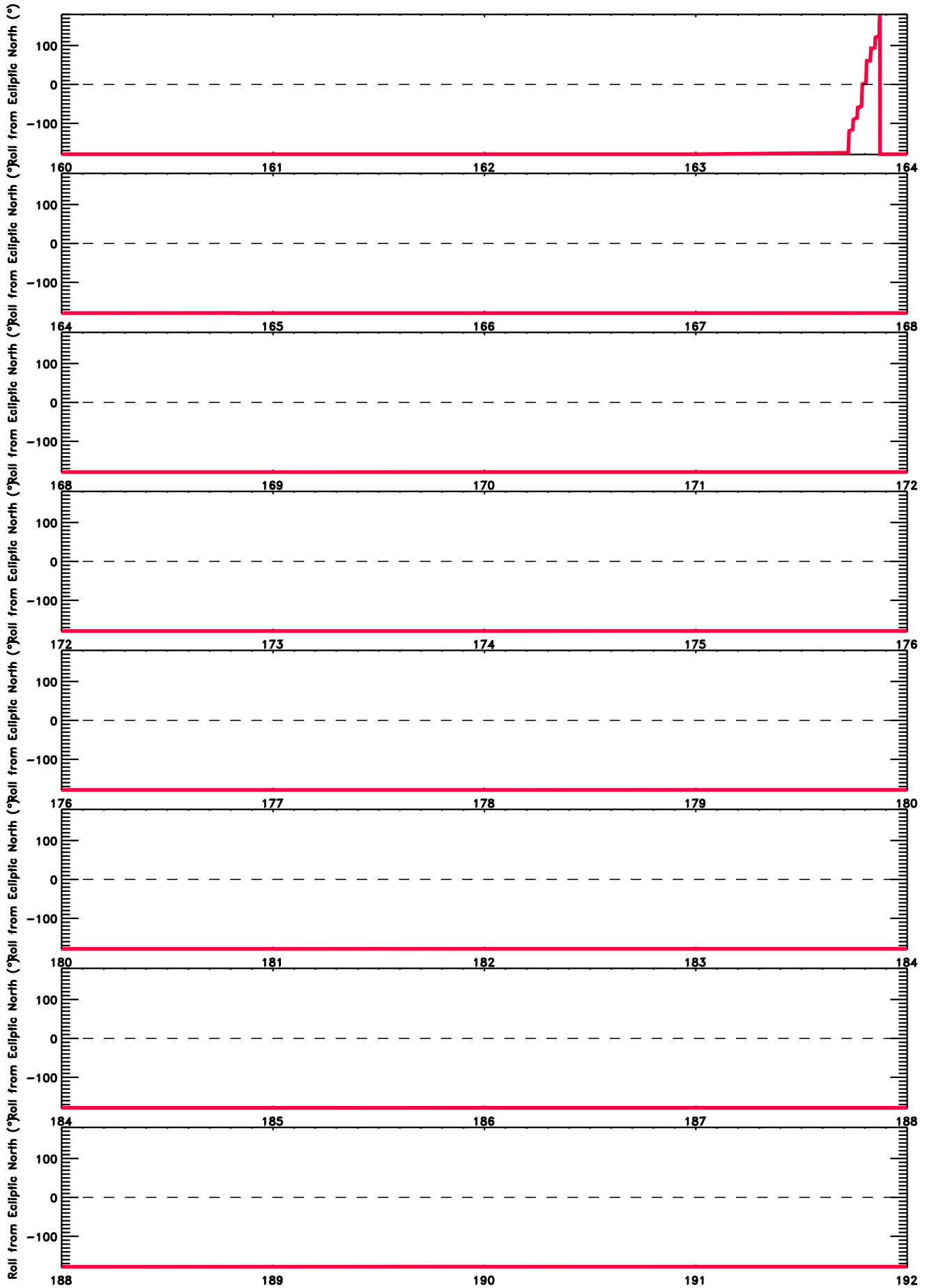
Day of 2023  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



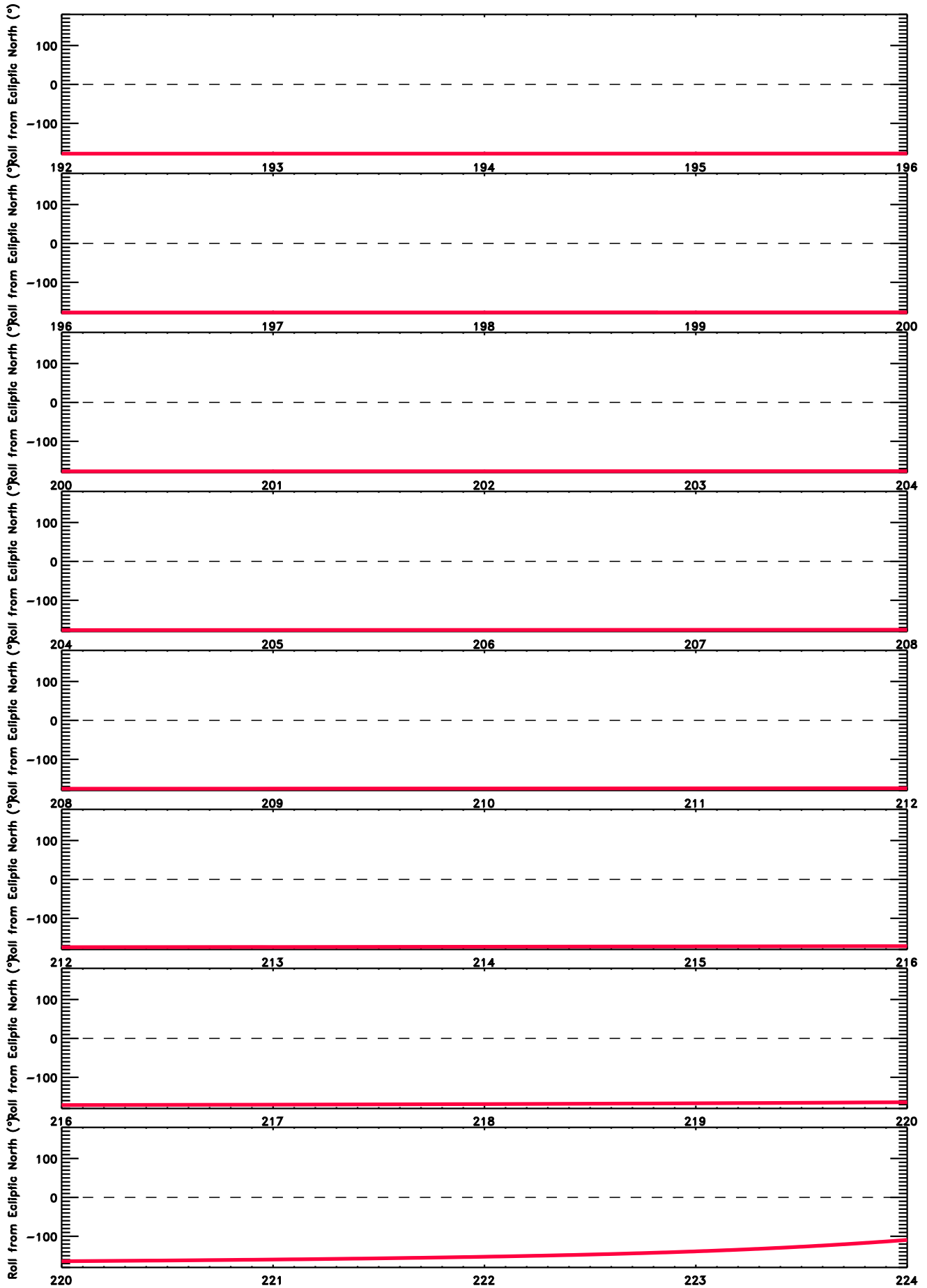
Day of 2023  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



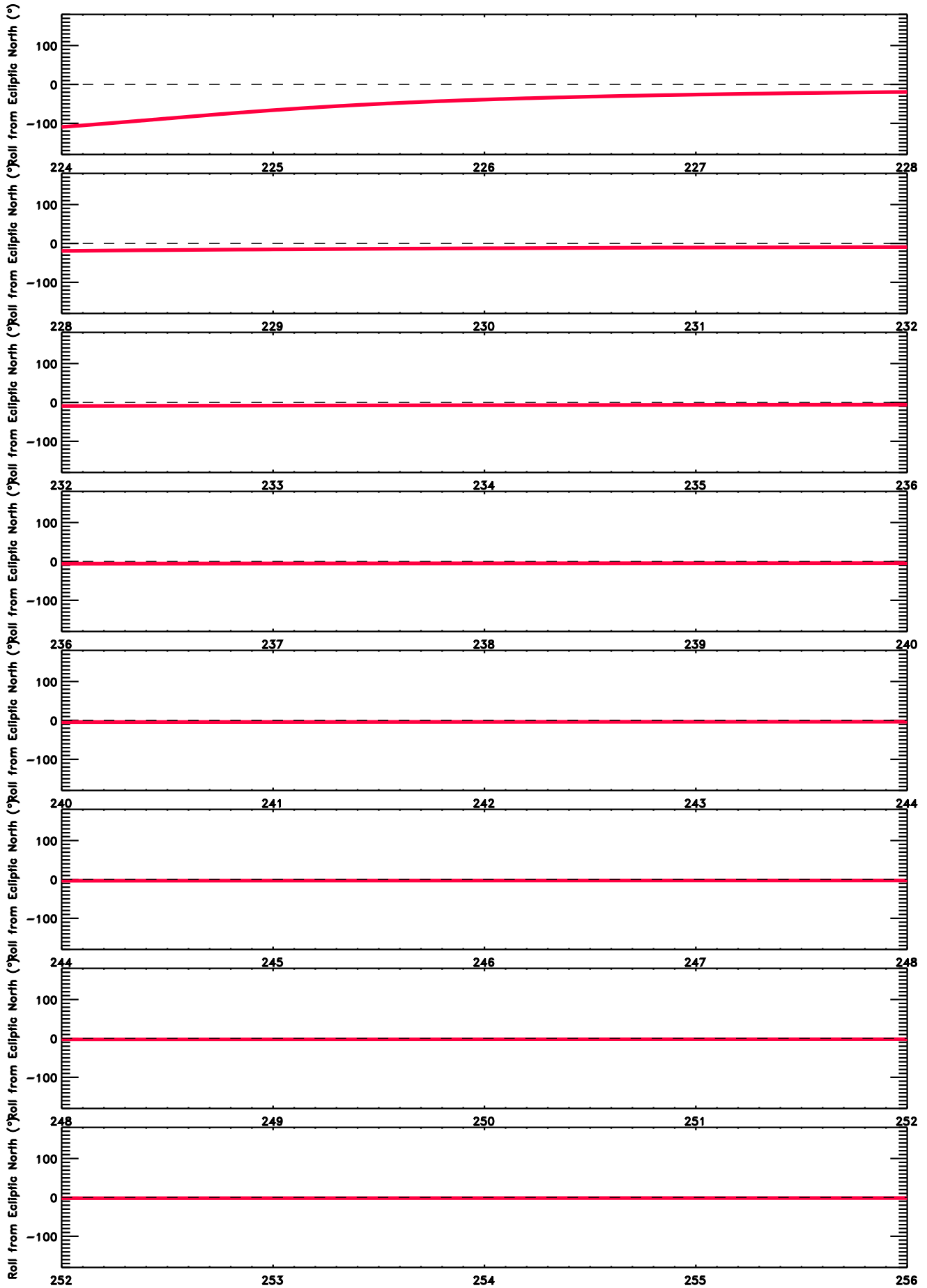
Day of 2023  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



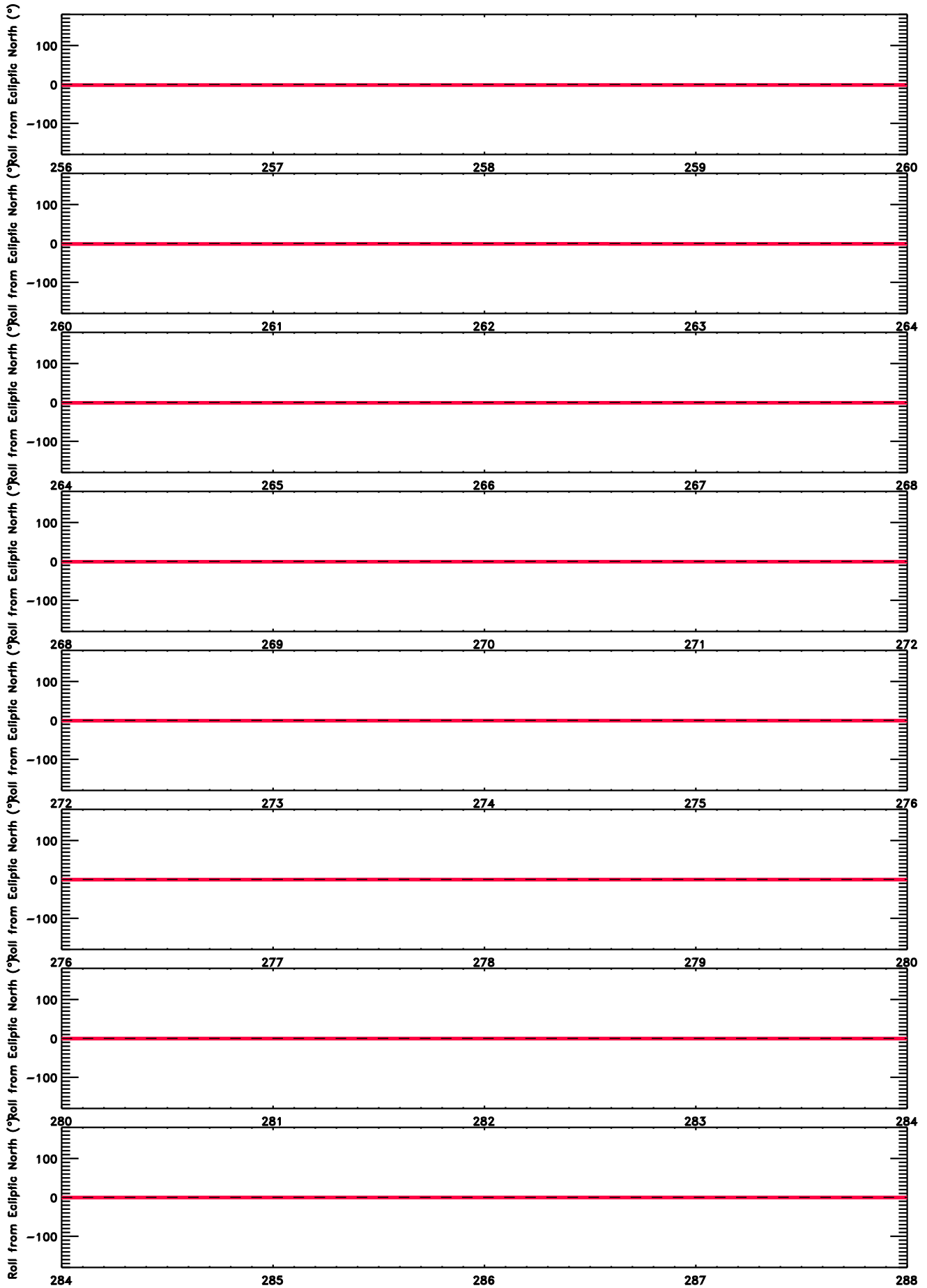
Day of 2023  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



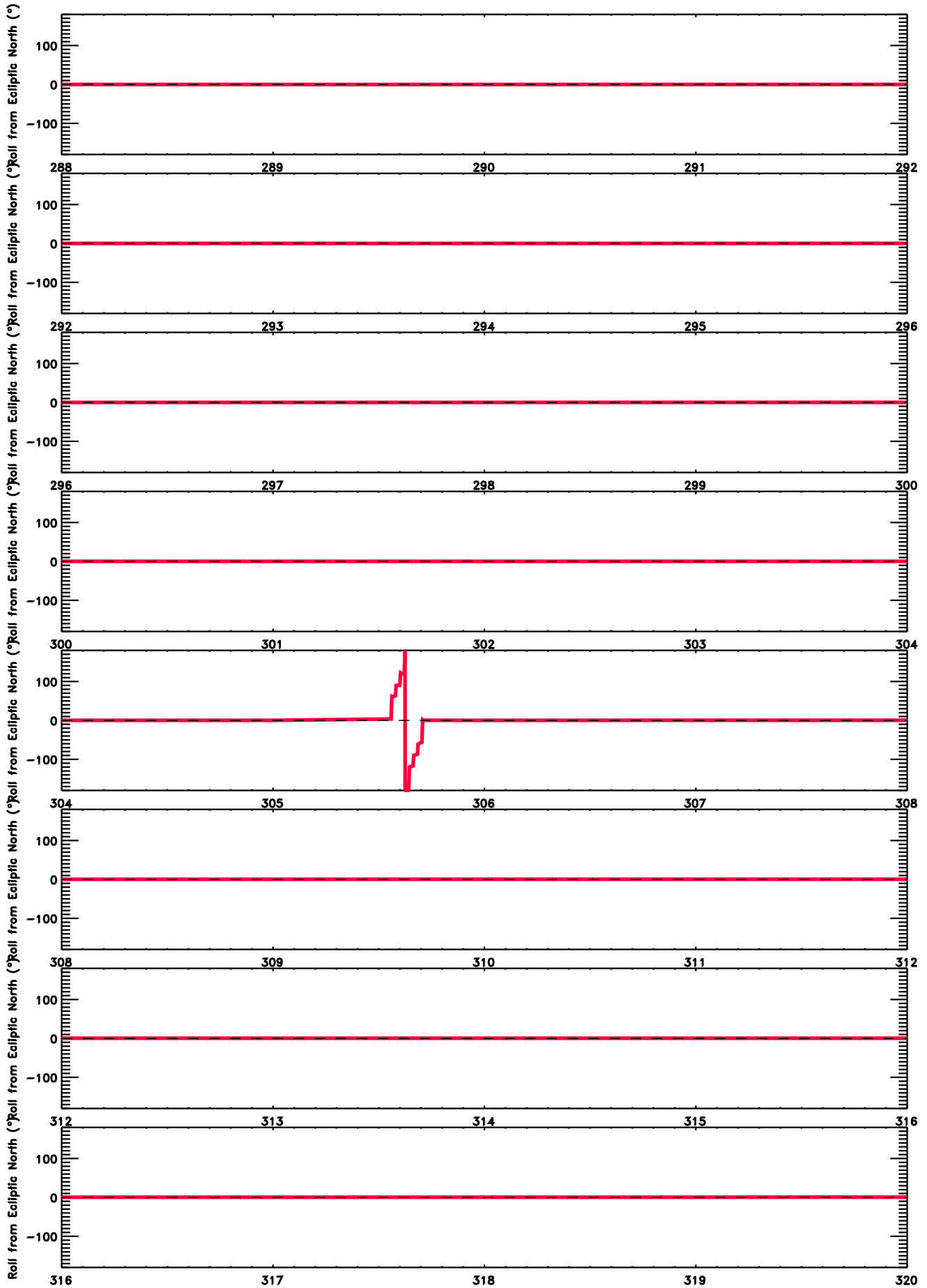
Day of 2023  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2023  
Red = Ahead; Blue = Behind

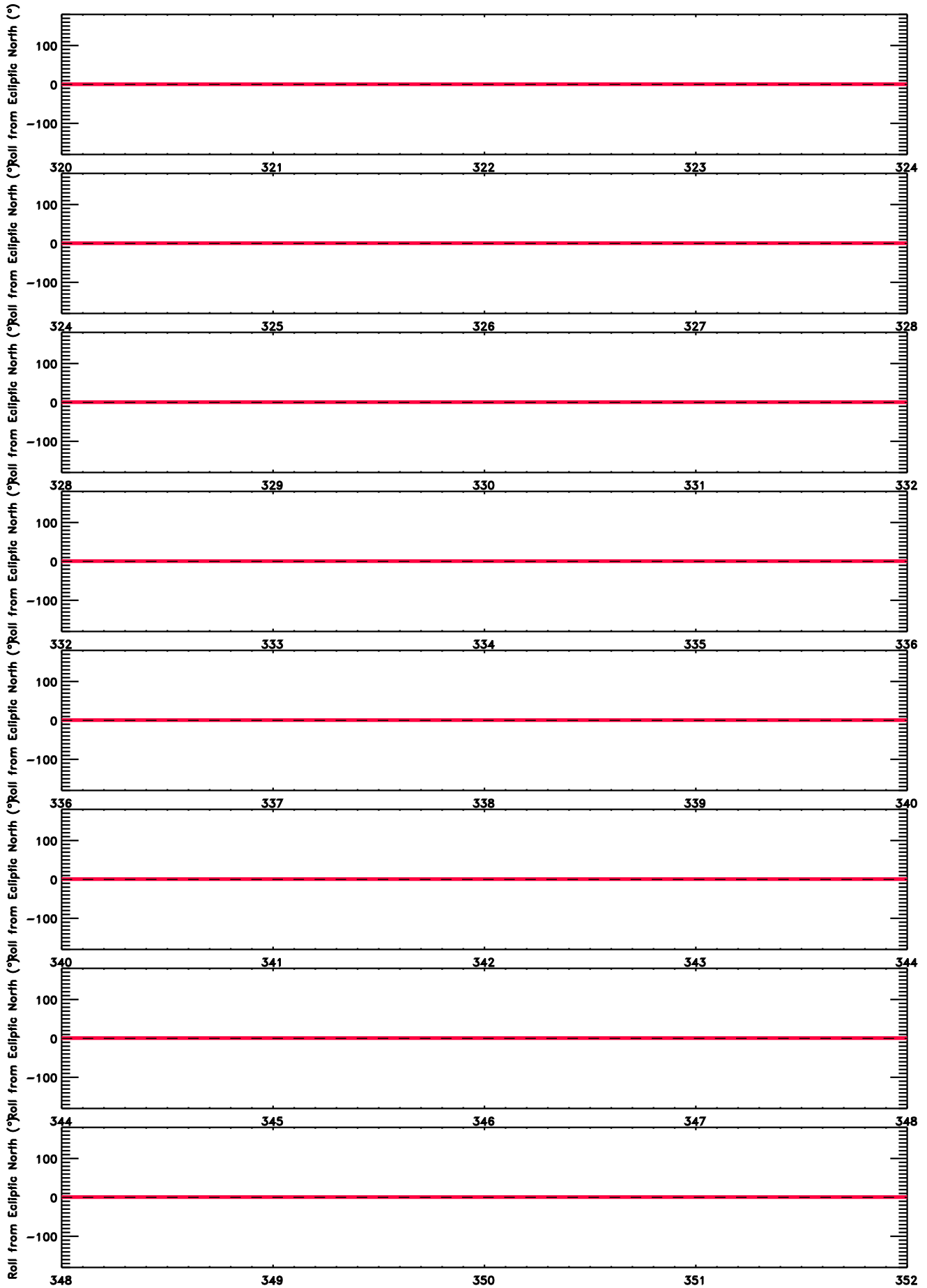
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Red = Ahead; Blue = Behind

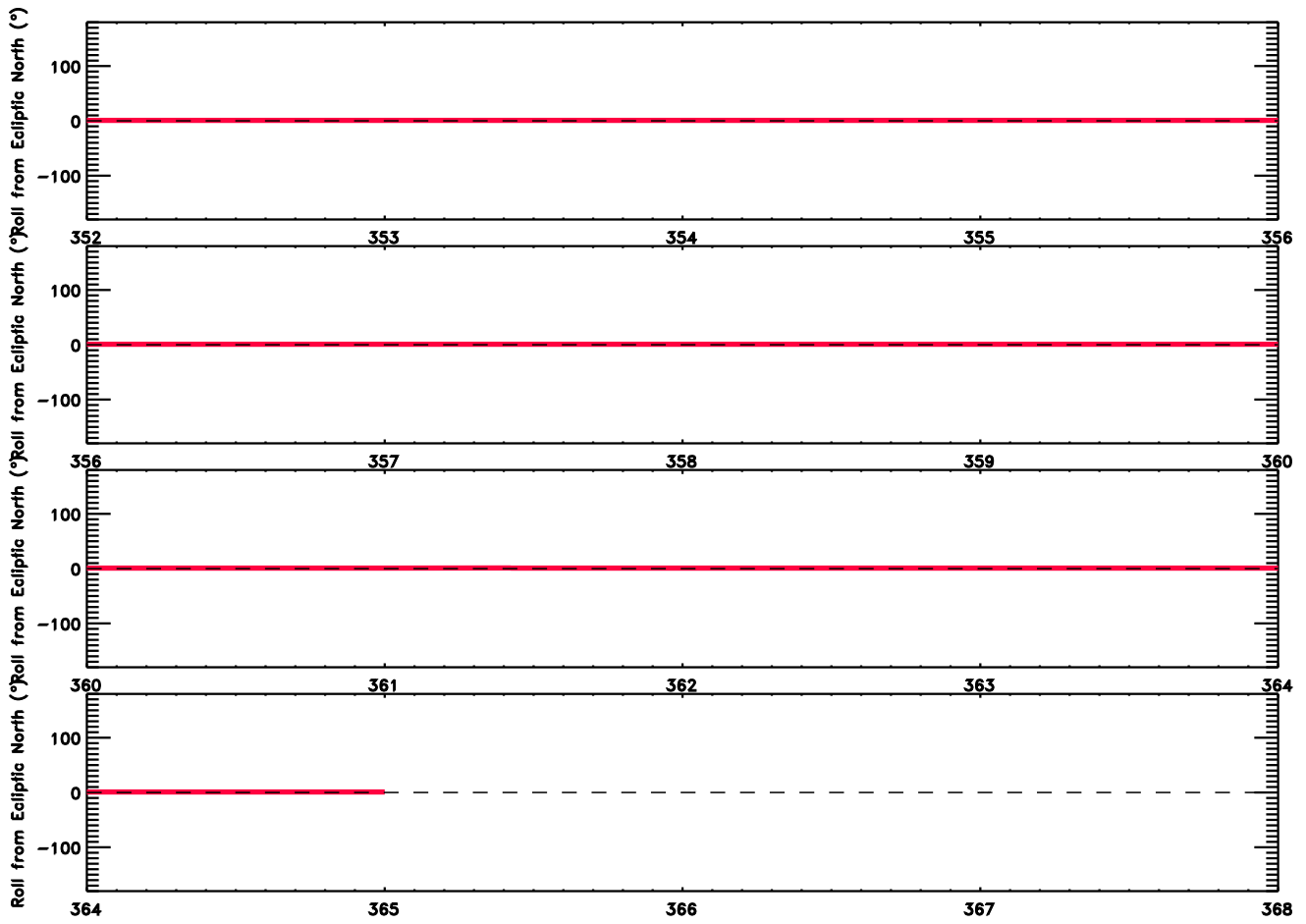


# Roll Angle from Ecliptic North (°)



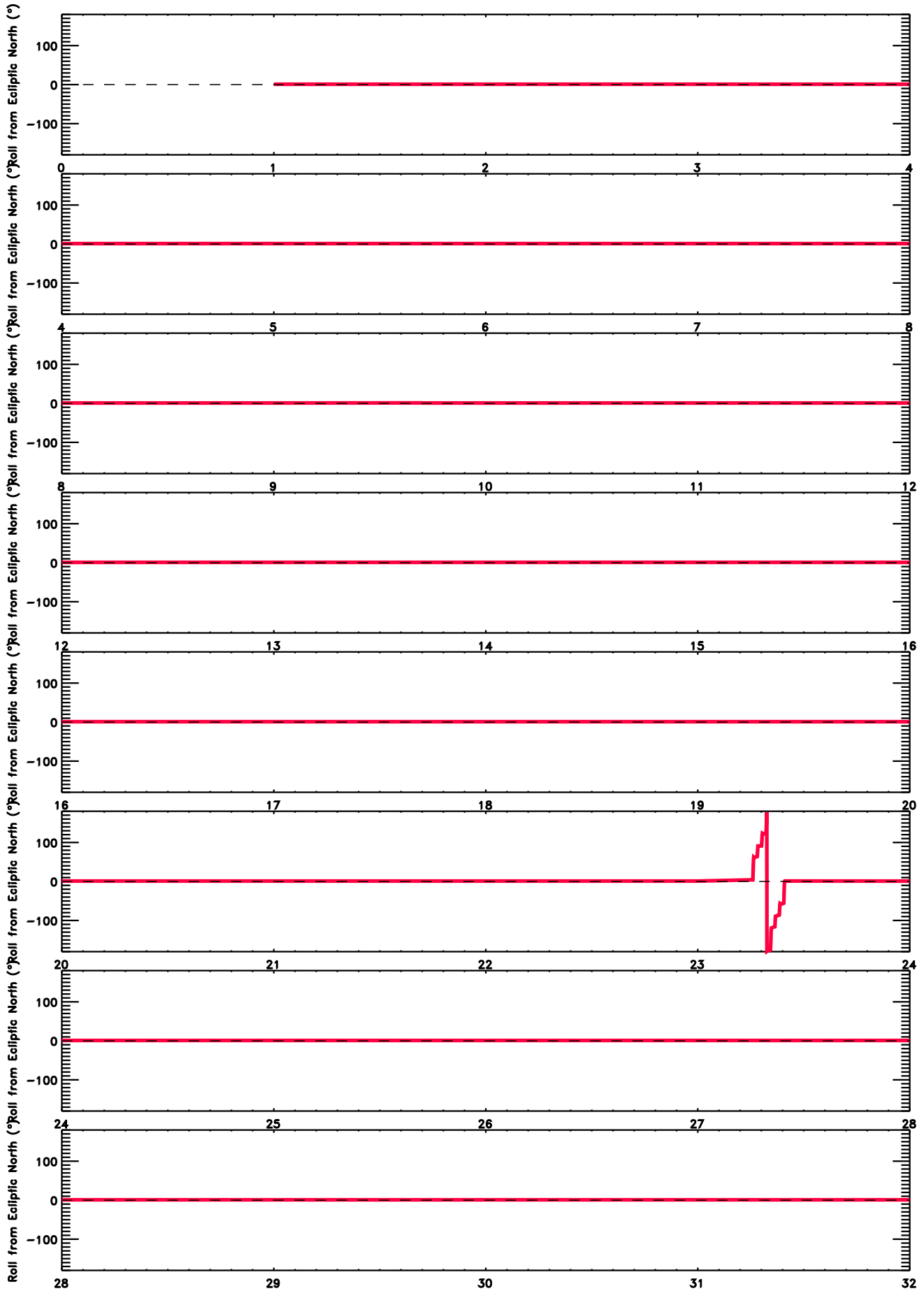
Day of 2023  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



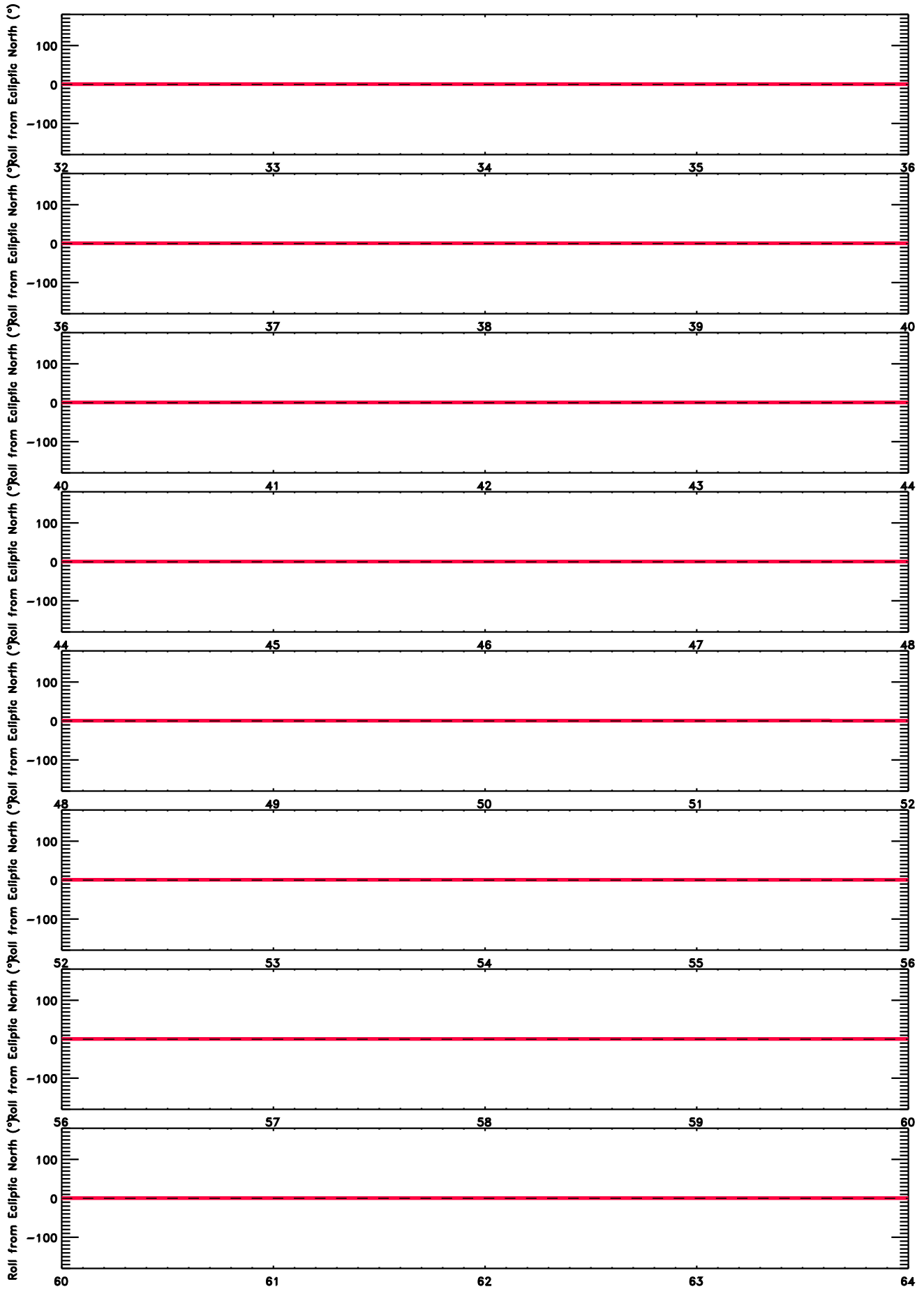
Day of 2023  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



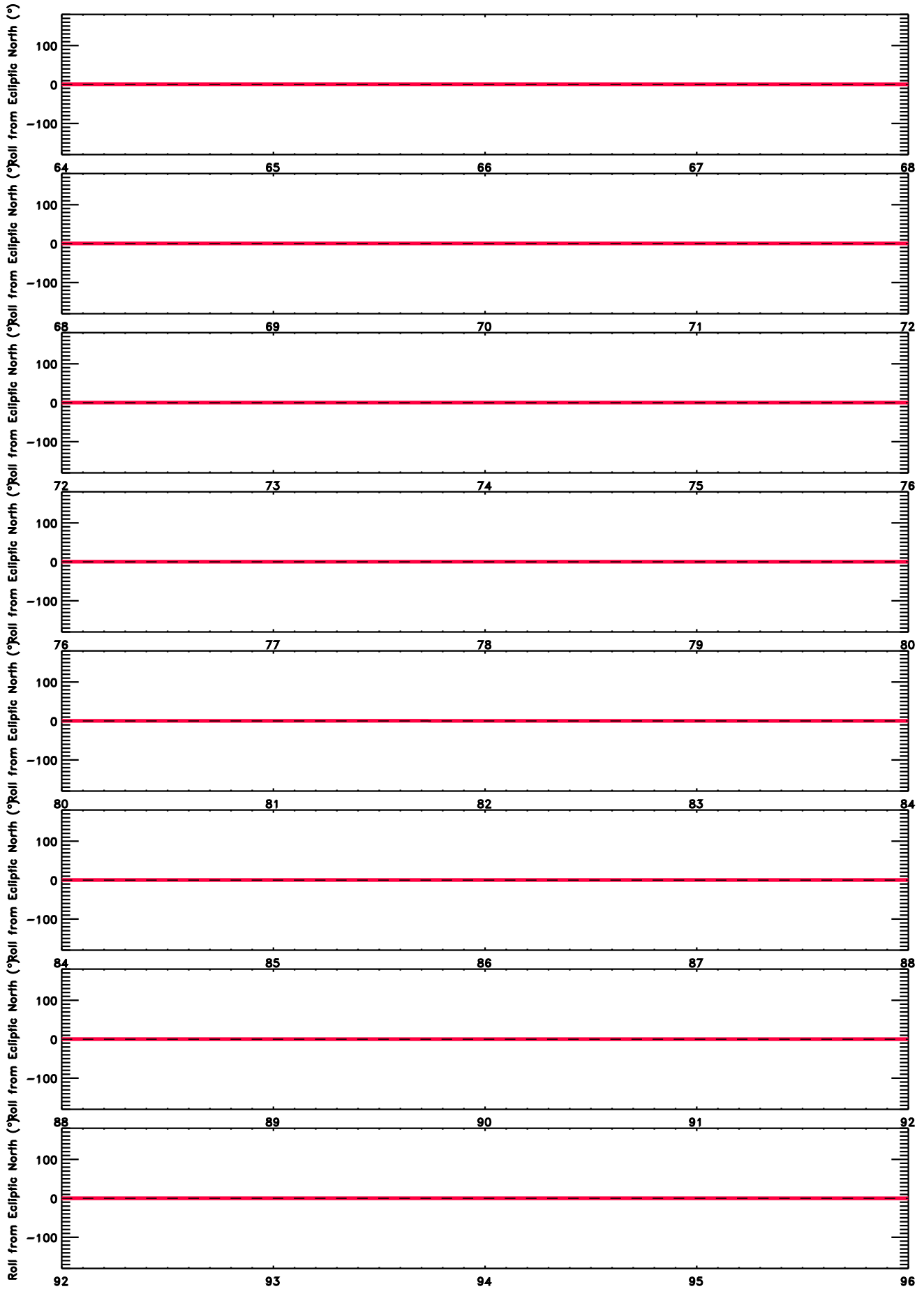
Day of 2024  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



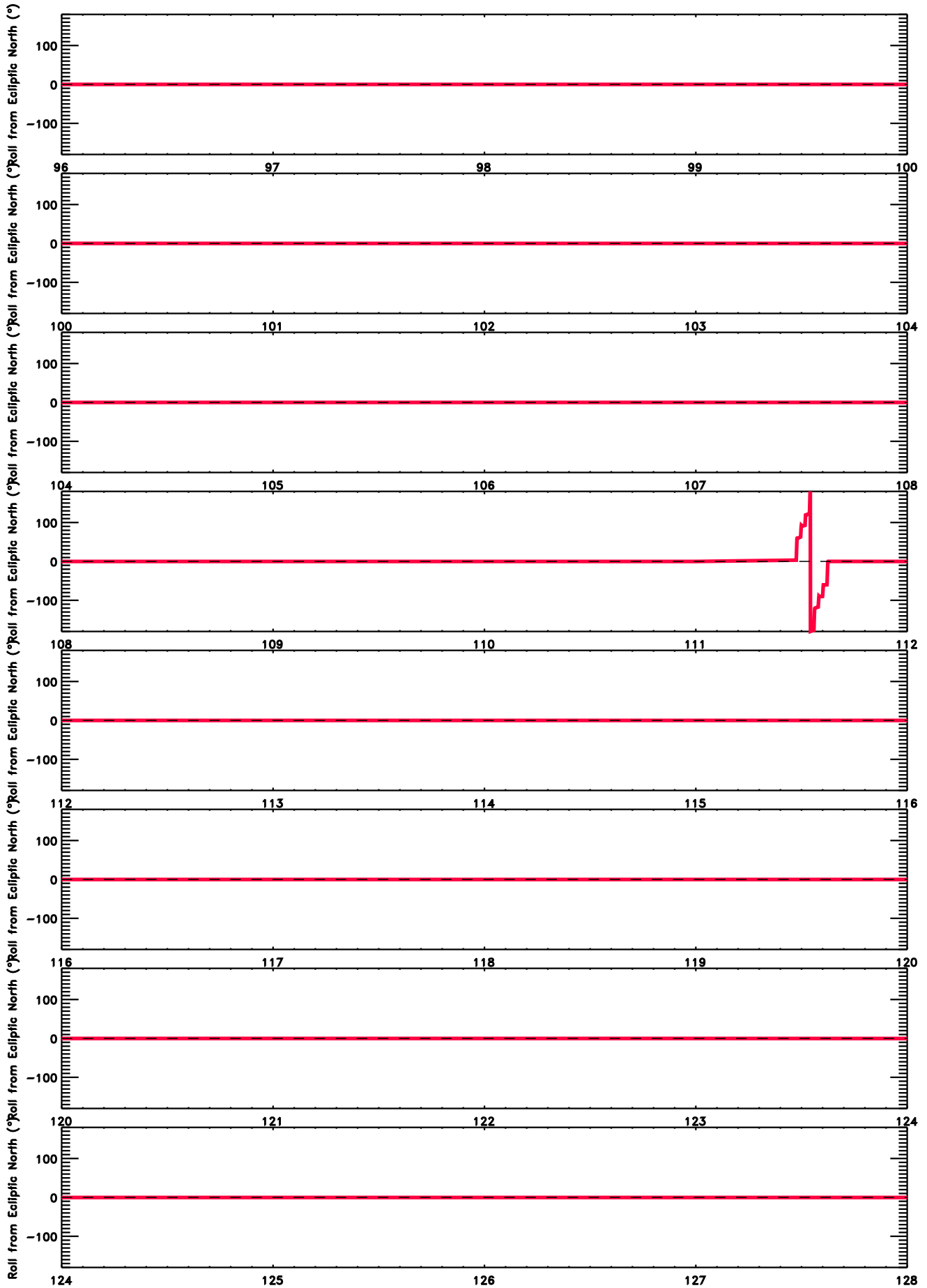
Day of 2024  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



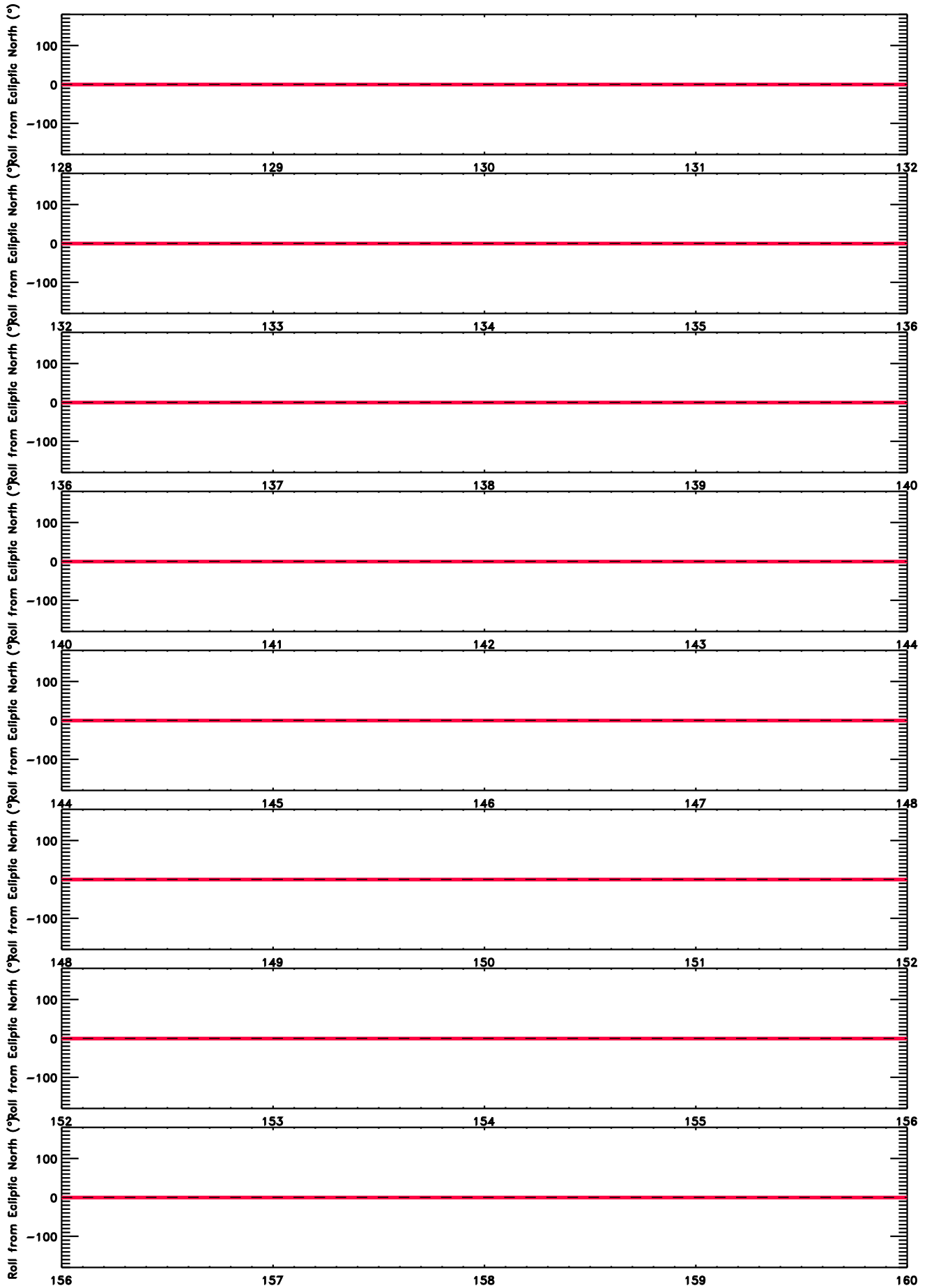
Day of 2024  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2024  
Red = Ahead; Blue = Behind

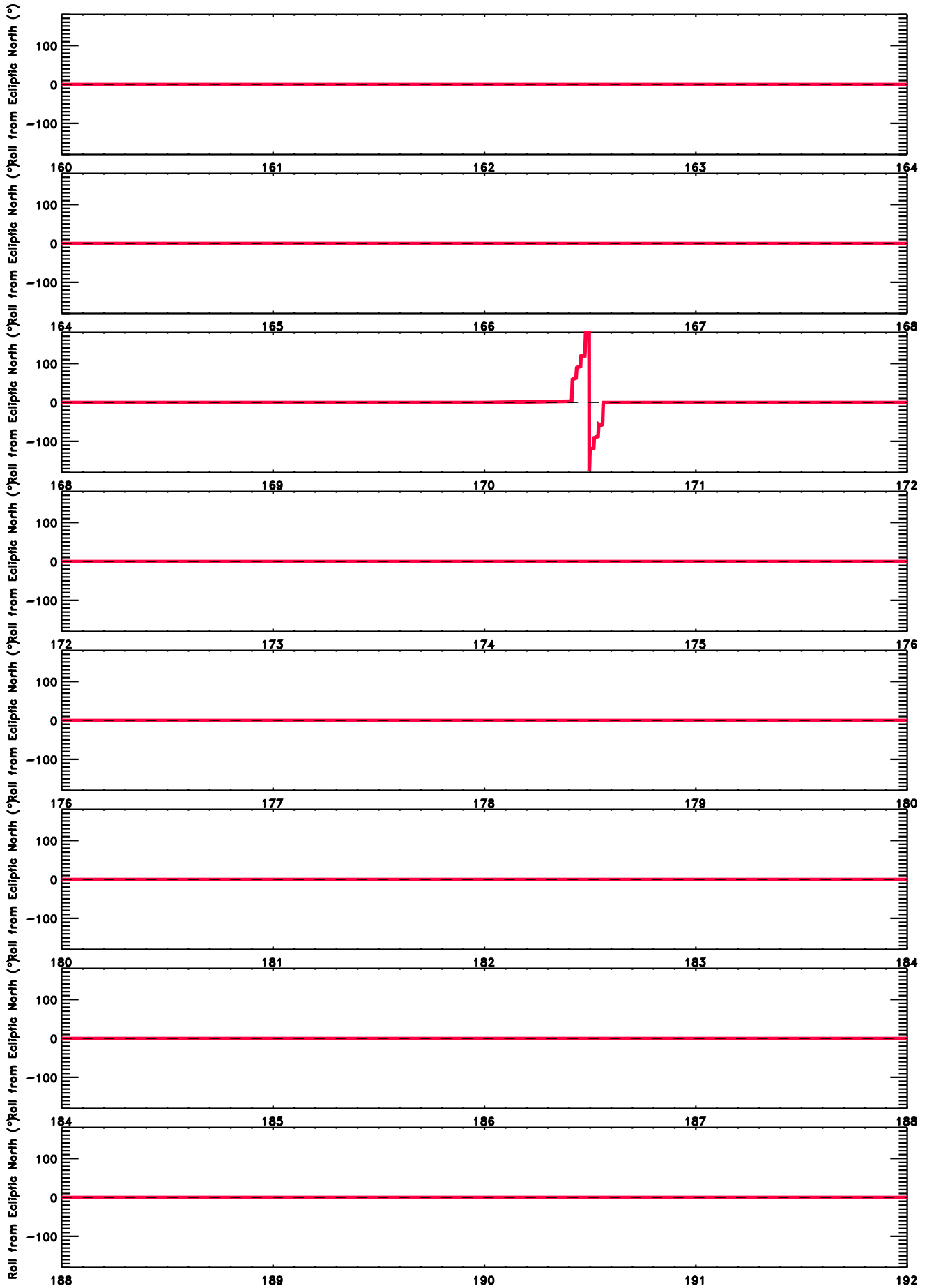
# Roll Angle from Ecliptic North (°)



Day of 2024

Red = Ahead; Blue = Behind

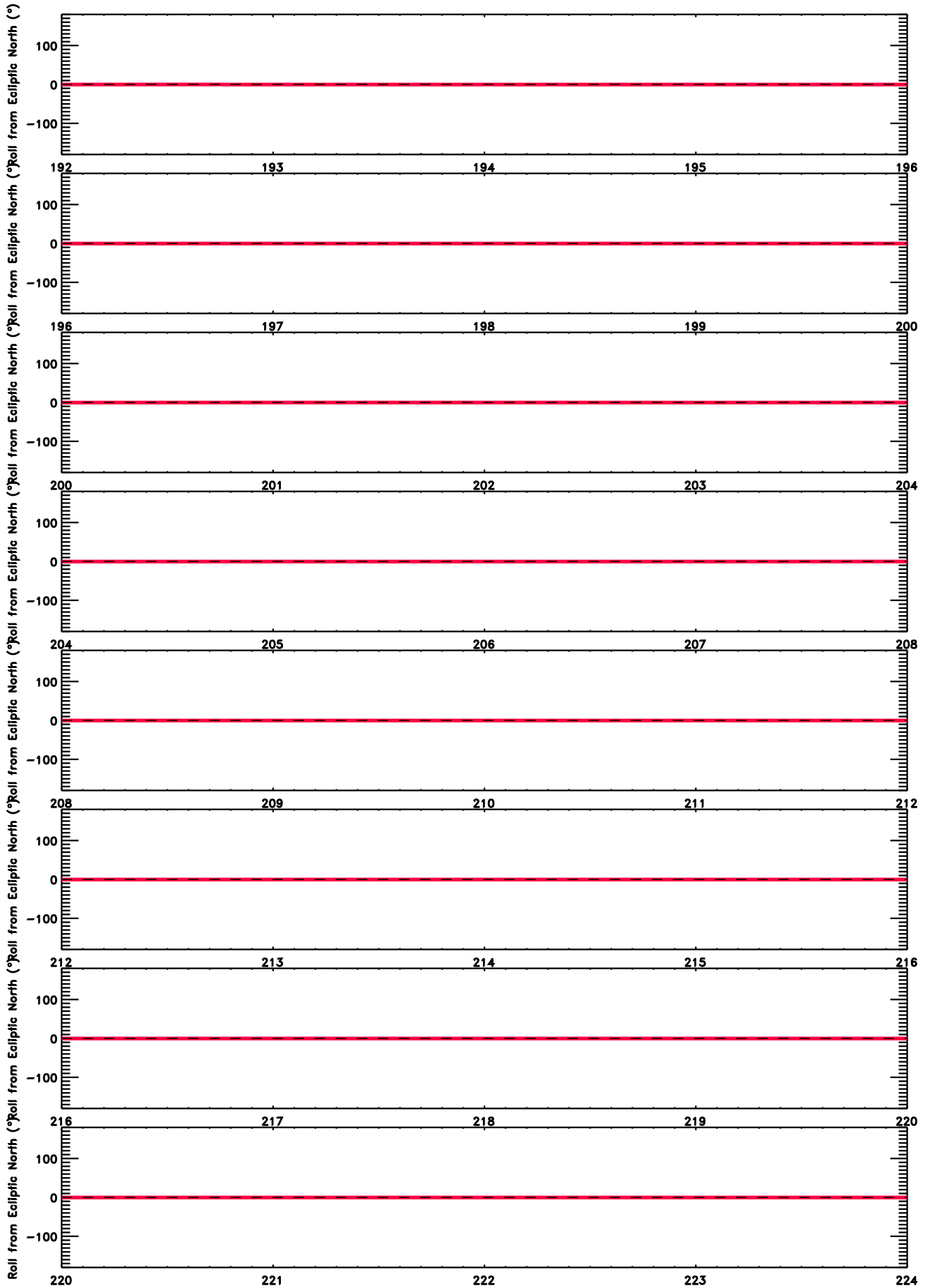
# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2024  
Red = Ahead; Blue = Behind

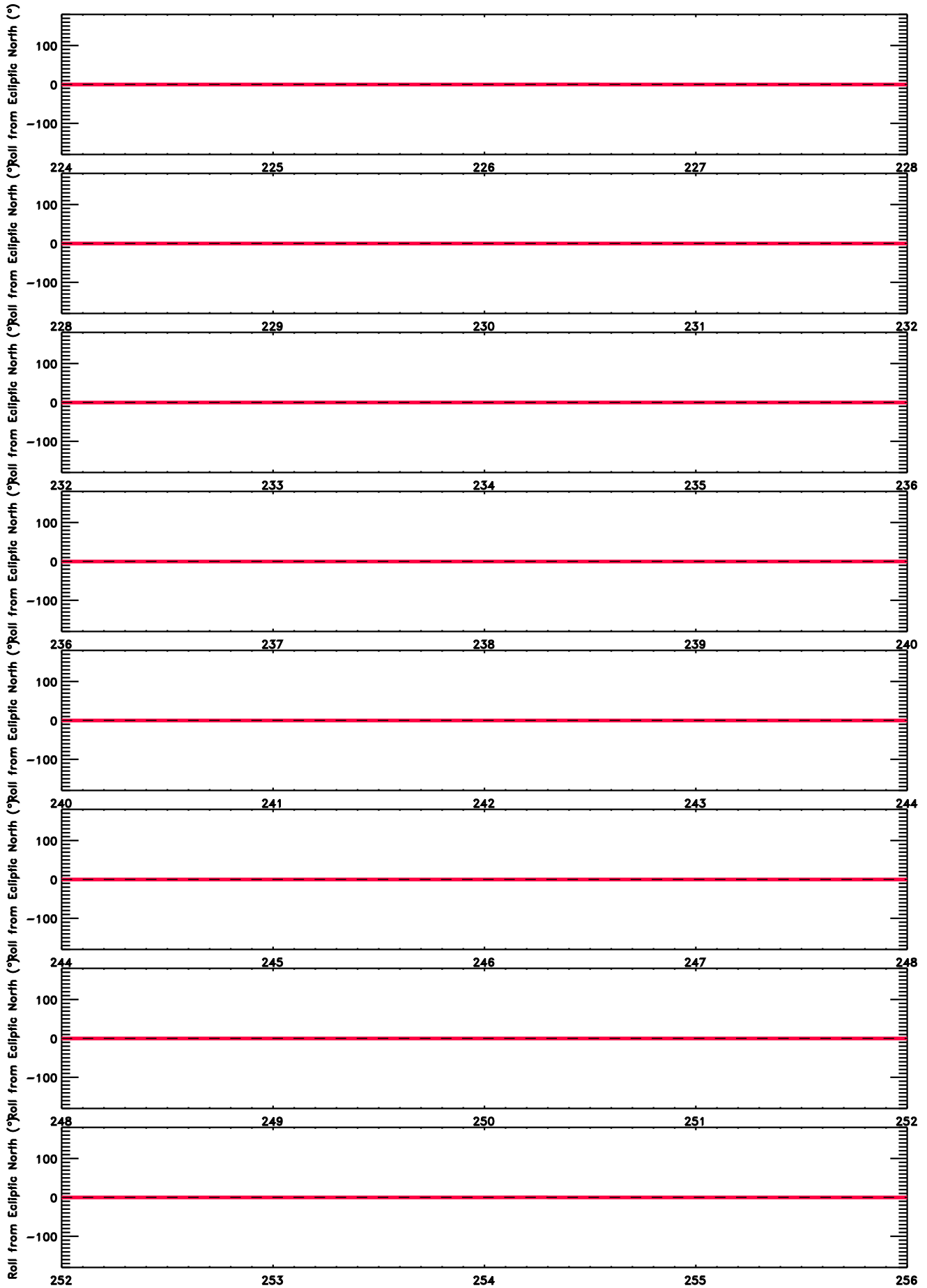


# Roll Angle from Ecliptic North ( $^{\circ}$ )



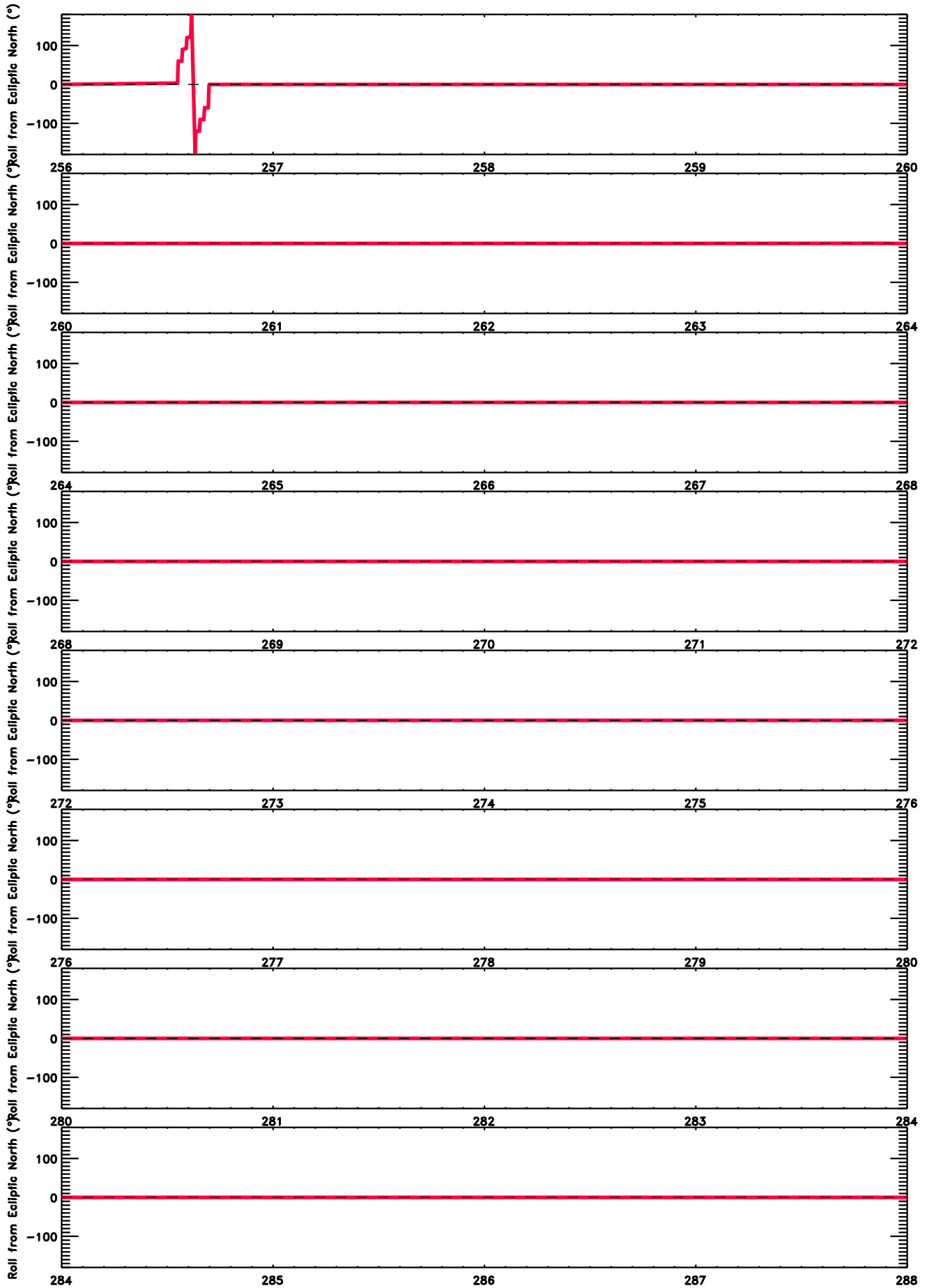
Day of 2024  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



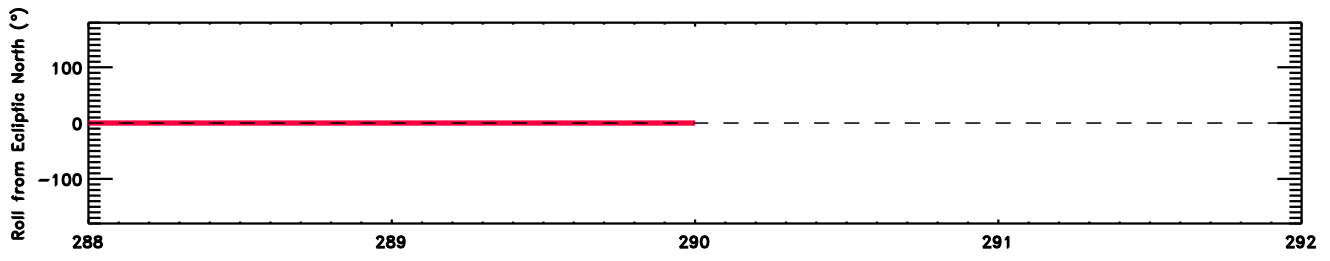
Day of 2024  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North (°)



Day of 2024  
Red = Ahead; Blue = Behind

# Roll Angle from Ecliptic North ( $^{\circ}$ )



Day of 2024  
Red = Ahead; Blue = Behind