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Structure and Dynamics of the Ion Tail of Comet 2004 Q2 (Machholz)

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A campaign of coordinated time-series observations of comet 2004 A2 (Machnolz) in January 2005 by using the Lulin One-meter Telescope (LOT) at Lulin Observatory in Taiwan and the BATC (Beijing-Arizona-Taiwan-Connecticut) 60/90 cm Schmidt Telescope at Beijing Astronomical Observatory was successful in imaging the ion tail activity in the coma and at large distance. In addition to the well-known umbrella folding effect of the ion rays, wavy features can be seen moving down the ion tail. We will compare the observed ion tail dynamics and structures to the solar activity and solar wind condition so that the origin of these time-variable phenomena can be understood better.