Recent 40Ar/39Ar dating of transitionally-magnetized lava flows on Lipari and Amsterdam Islands, and in Germany, has established new records of the Blake and post-Blake excursions at 100 and 120 ka, plus 5 excursions between 720 and 520 ka, bringing to 22 the number of excursions that are well documented, along with 7 polarity reversals, during the Matuyama and Brunhes chron. Most, but not all of these brief periods of dynamo instability are recorded as intensity lows or directional shifts in marine sediments. The converse is also true: at least 4 excursions clearly recorded in high deposition rate marine sediments in the North Atlantic are yet to be identified in any lava flow. To the degree that these these lava flow and sediment records can be temporally correlated with one another they represent a powerful, global chronostratigraphic tool for the Quaternary period. Moreover, knowing the timing and frequency with which these instabilities occur, as well as the morphology of successive instabilities, are essential to a complete understanding of how the dynamo works. Whereas consistent ages have been obtained for the Matuyama-Brunhes reversal and several excursions in the upper Matuyama chron using both O-isotope based astrochronology of marine sediments and 40Ar/39Ar radioisotopic dating of lava flows (Channell et al., 2010, G-cubed), the astrochronology calls into question recent efforts to re-calibrate the ages of neutron fluence standards and decay constants fundamental to the 40Ar/39Ar method. We will review these issues and present ways forward toward an integrated GITS.