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Cyclic variations of the heliospheric tilt angle and cosmic ray modulation

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Using data on cosmic ray modulation parameter since 1951, we have estimated the evolution of the heliospheric current sheet tilt angle for the period 1951–1975, i.e., 25 years before regular observations of the tilt angle. This estimate is based on our recent empirical model relating cosmic ray intensity with global heliospheric parameters. We propose a simple model to describe the cyclic evolution of the tilt angle with the solar cycle. This model agrees with available observational data after 1976 and with fragmentary data before that. Using this model, we have estimated the cosmic ray intensity after the Maunder minimum. This estimate is consistent with the results based on cosmogenic isotopes (^{14}C and ^{10}Be).