Planetary geomagnetic indices aa, am, and Kp are 3-hour indices based upon K indices measured at geomagnetic observatories. Their 3-hour time resolution is a strong limitation for many applications, such as, e.g., precise modelling of the Earth environment.

One of the by-products of the algorithms for computer determination of K indices is the series of minute values of the irregular variations from which K indices are derived. The availability of such minute values makes it possible to derive quantities that monitor the magnetic energy density with a time resolution better than 3-hours. We therefore introduced new indices based on another proxy of the magnetic energy, namely the root mean square (rms) of the irregular variations in the two horizontal geomagnetic components. Using such proxy does not put constraints on the length of the time interval over which the indices are derived.

Local rms indices can be computed at each observatory, and rms planetary indices derived following algorithms similar to those used for am, or aa planetary geomagnetic indices derivation. The availability of these indices is presented, and their contribution is illustrated.