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## **SAMS - the South African Magnetic model made of Splines**

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Geomagnetic repeat surveys are conducted in many nations all over the globe in order to produce regional declination maps. To meet the scientific characteristics of magnetic fields, this requires to model potential fields on a regional scale. We revisit an approach introduced by Shure et al. (1982) relying on harmonic splines, but we limit ourselves to truncated series, i.e. we include only finite order  $L$ . This allows a direct accordance to existing global main field models. We apply the technique to a repeat station data set from southern Africa covering the years 1961-2001. In this region, the magnetic field is weak and changes rapidly. The resulting SAMS model gives a detailed insight in the exceptional behaviour of this area.