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## **Magnetic properties of rhythmites from the Rio do Sul Formation intruded by a sill**

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Paleomagnetic data are crucial for paleogeographic reconstructions, but their reliability depends on when remanent magnetization was acquired. This study focuses on rhythmites from the Rio do Sul Formation (Itararé Group, Paraná Basin) exposed at the Bemara quarry, near Mafra (SC), intruded by a Mesozoic sill. The aim is to understand remagnetization and alteration due to the sill. Twenty-two rhythmite blocks were sampled at increasing distances from the intrusion. A total of 142 specimens underwent magnetic susceptibility and anisotropy (AMS) measurements and one per block was analyzed via thermal demagnetization and IRM acquisition. AMS results show oblate fabrics with vertical minimum axes, and magnetite as the main carrier. Magnetization directions indicate a younger geomagnetic overprint. IRM data reveal higher magnetic content near the sill. These findings support remagnetization and chemical alteration linked to the intrusion. Supported by SBGf, USPMag, and PRPI-USP.