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New Stephano-Permian palaeomagnetic and palinological data from The Buçaco Group (Northern Coimbra, Portugal) and their bearing for the Iberian APWP

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This study presents the palaeomagnetic results obtained from the upper part of the over 200 m thick Stephano-Permian Moçarros Fm of the Buçaco Group in northern Portugal. A total number of 37 samples were obtained from six sites located in the area of the Santa Cristina synclinal. Sampling targeted horizons of medium to fine red and grey sandstones that occurred interbedded in a mostly conglomerate and shale sequence. Age of the sampled sequence was precisely assigned to the Stephano-Permian boundary by palinology. Laboratory work comprised thermal demagnetization up to 720žC using 16 steps with susceptibility monitoring. Zijderveld diagrams showed a stable high temperature component of magnetization characterized by shallow positive inclinations (Dec= 156.5, inc=13.4, k=206.4 and a95=8.6). These are interpreted as remanence acquired soon after sedimentation in a reverse ambient field at a southern hemisphere paleolatitud of around 7ž, placing the Iberian Plate in the southern hemisphere in Stephano-Permian times. The significance of the data will be discussed in terms of their significance for the APWP of Iberia for the Carboniferous to Triassic times under the scope of distributed deformation tectonic models.