Paleomagnetic age dating of the Caravia-Berbes fluorite deposits of Asturias, Spain.

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Paleomagnetic results are reported for the Caravia-Berbes fluorite deposits of Asturias, Spain. The Caravia-Berbes district is a major fluorite producing area in Europe where the fluorite occurs as either mantos or veins. Paleomagnetic analyses of 191 specimens collected from the Emilio manto and the Caliza de Montaña Formation near the Mina Ana vein lode were done using alternating field and thermal step demagnetization methods. A stable characteristic remanent magnetization (ChRM) isolated in the specimens from Emilio manto yields a paleoinclination that gives an age of ~206 Ma after correction for Neogene Pyrenean tilt. This age indicates a major hydrothermal and ore emplacement event that is coeval with the onset of Pangea's breakup. Another stable ChRM in a silicified dolomitic alteration zone of the Caliza de Montaña Formation yields a paleopole positon at ~115 Ma after Neogene tilt correction, indicating that the western Cantabrian basin was also impacted by a major hydrothermal alteration and remagnetization event during the Aptian-Albian ~35° counterclockwise rotation of Iberia away from the Eurasian plate. Our results show that the Mesozoic strata has experienced at least two major hydrothermal events.

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