PALAEOPROTEROZOIC CONFIGURATION OF THE WEST AFRICAN AND AMAZONIAN SHIELD BASED ON NEW PALEOMAGNETIC DATA FROM FRENCH GUIANA AND GUINEA

H. Théveniaut, C. Delor, P. Rossi and collaborators of the BRGM's French Guiana and the BRGM-DNG's SE Guinea mapping projectsBRGM,Orléans, France

French Guiana is part of the Amazonia Shield which is mainly composed by granite-greenstone belts ranging from 2.2 to 2.0 Ga. In the framework of a BRGM's geological mapping project of the French Guiana Territory, a thousand samples were collected from all representative Palaeoproterozoic formations which outcrop on the rivers of French Guiana. These samples consist on granites, gabbros, granodiorites and metamorphic rocks. They were paleomagnetically analyzed using mainly thermal demagnetization technique. A few different components carried by minerals of the magnetite family were isolated. Combined with geochronological datings this enabled us to produce an Amazonian APWP for the 2.2-2.0 Ga time period. Similar approach was carried out in Guinea which is, geologically, part of the West African Shield which has an Archean core surrounded by Palaeoproterozoic granite-greenstone. 150 samples of granites and metamorphic rocks were also taken from SE Guinea for a paleomagnetic analysis. Different components were also isolated. Combined with geochronological datings, the derived poles allowed us to produce an APWP for the West African Shield. Using these new well dated APWPs and in association with previous paleomagnetic results on both continents, we propose a reappraisial of the Amazonia-West Africa Shield configuration during the Palaeoproterozoic at around 2.0 Ga.