



Structure of the Lithosphere beneath Cameroon and implications to the setting of the Cameroon Volcanic Line

Alain-Pierre Tokam Kamba (1,2), Ray Durrheim (1), Charles Tabod (2), Andy Nyblade (3), and Severin Nguiya (4)

(1) School of Geosciences, University of Witwatersrand, South Africa (alaintokam@yahoo.fr), (2) Faculty of Science, University of Yaounde 1, Cameroon, (3) Penn State University, USA, (4) Faculty of Industrial Engineering, University of Douala, Cameroon

The composition of the Lithosphere beneath Cameroon and the origin of the Cameroon volcanic Line (CVL) are still under debate in the Science Community. Although many studies based on regional or global observations provide good explanations to the setting of the CVL, none of them is strong enough to be unique. In this work, we computed new Rayleigh wave group velocities from small size cells tomography, and then we used the joint inversion of both Rayleigh wave group velocities and receiver functions to provide new velocity profiles of the Lithosphere beneath Cameroon. The obtained velocity profiles provide new insights on the setting of the main geologic features in Cameroon. The data used for this study were obtained from a temporary deployment of a network of 32 seismic stations operating from January 2005 to January 2007.