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The Origins of Zedang Peridotite in Eastern Yarlung-Zangbo Suture in Tibet

LAI Shengmin^{1,2}, YANG Jingsui^{1,2,*}, XIONG Fahui², LIU Zhao¹, TIAN Yazhou², Xu Xiangzhen², ZHANG Lan¹, CHEN Yanhong² and GAO Jian³

1 School of Earth Science and Mineral Resources, China University of Geosciences, Beijing 100083, China

2 State Key Laboratory for Continental Tectonics and Dynamics, Institute of Geology, Chinese Academy of Geological Sciences, Beijing 100037, China

3 Kunming University of Science and Technology, Kunming 650504

The Zedang mafic-ultramafic body crops out in the eastern Yarlung-Zangbo suture zone of Tibet. This massif consists of mantle peridotite, gabbro, diabase and volcanic rocks. The mantle peridotites are mostly harzburgite, lherzolite and a few harzburgites with chromitite. Dike-like bodies of dunite are also present. Mineral structures show that the peridotites experienced plastic deformation following partial melting. The Fo values of olivine range from 89.62~91.84 Fo. The orthopyroxenes vary from 87.82

to 90.32 En. Clinopyroxenes are mainly endiopside and diopside and the En values of clinopyroxene range from 44.12~50.02. The spinels have Cr# values from 17.00 to 93.59. The aluminum-rich spinels are hosted by harzburgite and lherzolite and the chromium-rich spinels are hosted by dunite. The mineralogy and geochemistry of the Zedang peridotites suggest that they formed originally at a mid-ocean ridge (MOR) and were later modified by suprasubduction zone (SSZ) melts.

* Corresponding author. E-mail: yangjingsui@yahoo.com.cn