



## **Origin of carbonate xenoliths in Siddanpalli kimberlites, Southern India**

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A number of carbonate xenoliths have been recently discovered from the three kimberlites (designated as SK1, SK2, SK3) of the Siddanpalli kimberlite cluster (SKC; Sridhar et al., 2004) of Southern India. These kimberlites intrude the Precambrian granite-greenstone terrain of Gadwal schist belt of Eastern Dharwar Craton (e.g., Dongre et al., 2008). Rb-Sr phlogopite/whole-rock dating of one of these bodies, SK1, has yielded an age of  $1093 \pm$  Ma (Kumar et al. 2007). Previously, Dongre et al. (2008) reported an occurrence of a limestone xenolith from the SK2 kimberlite. Based on petrographic, geochemical, and C and O isotope data these authors suggested a sedimentary origin for the limestone xenolith. However, now we have documented a larger variation in the nature of carbonate material occurring as xenoliths in these kimberlites, ranging from micro-crystalline segregations to well-formed carbonate crystals. Thus, it is likely that a number of sources and/or processes have been involved in their formation. We are in the process of measuring carbon and oxygen isotopic compositions of individual carbonate xenoliths in order to further constrain their origin.