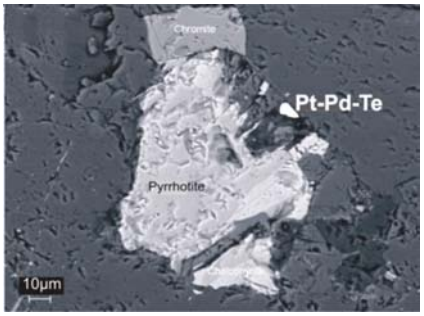
In this issue

Platinum group minerals

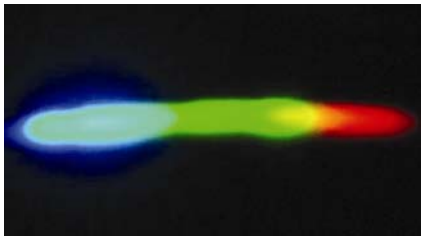
Tony Naldratt of Canada, called the father of platinum group element (PGE), has mentioned in the editorial columns of the *Journal of Geological Society of India* that Bastar Craton and Cuddapah basin are two potential areas in India, where one should look for PGE mineralization. Though PGE geochemistry has been explained from high-Mg boninite magma



in the Bastar Craton by Srivastava *et al*. (2010), no platinum group minerals (PGM) have been identified. Dora *et al.* (**page 399**) discovered four phases of rare PGM from mafic–ultramafic bodies in the Bastar Craton by mapping and SEM studies. The study has important significance and opened up a new vista to Bastar Craton, where plenty of such type mafic-ultramafic dyke swarms are exposed in central and southern part of the craton.

Generation of blue laser by pumping photonic crystal fibre in infrared region

The generation of the dispersive wave (DW) during supercontinuum process in highly nonlinear photonic crystal fibre is an essential phenomenon in forming the extreme blue component of the spectrum, i.e. generation of blue laser by pumping in the infrared region. Physically, the higher order dispersion terms lead to the transfer of energy from generated solitons to DWs (also called non-solitonic radiation). The frequency of DW is controlled by a phase matching condition that depends on the intrinsic property of the waveguide. Roy *et al.* (**page 321**) describe the role of third, fourth and other higher order dispersions on the generation and control of DWs using numerical



solution of generalized nonlinear Schrödinger equation. The study reveals several facts such as all positive, even-order dispersion coefficients always generate dual radiation and all odd-order dispersion produce single radiation. Even the numeric sign of the dispersion coefficient modulates the non-solitonic radiations quite significantly. The parameters related to generation of supercontinuum are generalized by establishing a correlation between dispersion profile and generated DW, which provide information useful for fabrication of nonlinear photonic crystal fibre.

Clay minerals from Schirmacher Oasis, East Antarctica

The Indian Scientific Expedition to Antarctica, arranged annually by NCAOR, Goa is a platform for the Polar Scientists of India covering mainly earth, atmospheric, biological and chemical sciences. The geological and glaciological studies around the Indian station 'Maitri' are one of the extensively explored aspects through these expeditions by the active involvement of GSI, NGRI, SOI and various universities. The highly metamorphosed terrain of Oasis, occasionally, intruded by igneous rocks, favours largely to hard terrain workers. However, the sedimentological aspect of the area is also equally important as it is a site of ongoing glacial process. The sediments deposited on various glacial units, i.e. main rocky land, lakes, coastal shelf and ice sheet by melting of ice sheet, melt water channels and winds provide important information about depositional environments, nature and pattern of sedimentation, weathering pattern, source of sediments, palaeoclimate, etc. Srivastava *et al*. (**page 363**) identified clay minerals, viz. chlorite, illite, kaolinite,

Indian station 'Maitri'

smectite and vermiculite from the sediments of various glacial units of Schirmacher Oasis and adjoining area through DTA, TGA and XRD analysis. Illite is the dominant clay mineral followed by smectite and vermiculite. It is interpreted that most of the clay minerals are formed due to weathering and alterations of highly metamorphosed terrain of Schirmacher in cold climate. The origins of various clay minerals are specific to the chemical and physical weathering of the sediments, mineralogical composition of host rock, authigenesis and transformation under cold climatic conditions; however, the fluctuations in temperature and humidity have also played an important role.