

## **Abstract**

In the present work, multilayer reflection coating analysis has been employed for design and simulating diode-pumped solid state (DPSS) laser system with second harmonic generation (SHG) using composite crystal (DPM010X). It was found that the optical reflection greatly depends on the refractive index, optical thickness and number of anti-reflection coating layers used. The calculated refractive index was found to be 1.949 for phase matched angle of  $23.2^\circ$  for the KTP non-linear crystal.