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**POLARIZED RAMAN SPECTROSCOPIC STUDY OF  
THE PRESSURE-INDUCED PHASE CHANGE FROM  
C2/C TO P21/C IN SPODUMENE (LiAlSi<sub>2</sub>O<sub>6</sub>)**

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Spodumene (LiAlSi<sub>2</sub>O<sub>6</sub>) is a member of the pyroxene family of minerals, which comprise approximately 25% of the Earth's volume to a depth of 400 km. A recently discovered phase change in pyroxenes is now accepted as the origin of deep-focus earthquakes at a depth of about 225 km. Depending on temperature and pressure, spodumene exhibits either C2/c or P21/c symmetry, accompanied by a 1.4% volume change at the transition. Studies employing the ability of Raman spectroscopy to monitor the phase change at 3.4 GPa will be reported. Polarized spectra of an oriented crystal will be presented demonstrating the ability to obtain additional information about symmetries of Raman peaks, which is important when assigning peak frequencies to specific atomic motions. Spectra of spodumene taken at 785 nm and 514 nm along the principle axes of a single monoclinic biaxial crystal at room pressure will be discussed. The symmetries of individual peaks will be identified and their importance discussed.