Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

The Blume-Emery-Griffiths Spin Glass and Inverted Tricritical Points V. ONGUN ÖZÇELIK, A. NIHAT BERKER, Koç University — The Blume-Emery-Griffiths spin glass is studied by renormalization-group theory in d=3.[1] The boundary between the ferromagnetic and paramagnetic phases has first-order and two types of second-order segments. This topology includes an inverted tricritical point, first-order transitions replacing second-order transitions as temperature is lowered. The phase diagrams show disconnected spin-glass regions, spin-glass and paramagnetic reentrances, and complete reentrance, where the spin-glass phase replaces the ferromagnet as temperature is lowered for all chemical potentials. [1] V.O. Özçelik and A.N. Berker, Phys. Rev. E 78, 031104 (2008).

V. Ongun Özçelik
Koç University

Date submitted: 19 Nov 2008 Electronic form version 1.4