1067-58-241 **Celso Melchiades Doria*** (cmdoria@mtm.ufsc.br), UFSC, Departamento de Matemática, Campus Universitário, Trindade, Florianopolis - SC, 88034-510, Brazil. *An equivalent condition to the existence of an irreducible Seiberg-Witten Monopole on a smooth closed 4-manifold.*

Let (X, g) be a closed, smooth riemannian 4-manifold. For any fixed spin^c structures α on X, the Seiberg-Witten functional admits two classes of critical points (i) irreducibles: (A, ϕ), $\phi \neq 0$, (ii) reducibles: $(A, 0)$. The question addressed concern the existence of irreducible critical points. For this purposes, the Morse-Bott index of the reducible solutions is investigated and it tuns out to be finite after a perturbation on the equations. The Kronheimer-Mrowka Blow-up procedure is also applied and interesting aspect relating the critical points to to the spectrum of the spin^c Dirac operator is obtained. (Received August 21, 2010)