1041-82-123 **E. J. Janse van Rensburg*** (rensburg@yorku.ca), Mathematics and Statistics, 215 Petrie Science, York University, Toronto, Ontario M3J 1P3, Canada. *Directed Paths in a Layered Environment.*

A path in a layered lattice may be considered as a model of a polymer in a layered fluid of inmiscible solvents, say of water and oils. If the monomers of the polymer are hydrophilic, then the polymer will favour conformations with most of its monomers in the water layer. If the monomers of the polymer are hydrophobic, then it will explore conformations with most monomers in the oil layers. In this talk I will present preliminary results of a directed path model in a layered two dimensional lattice. I shall discuss the generating functions of such paths, and determine asymptotic expressions for the free energies of the path in several limiting cases, and consider the phase diagrams of the model. (Received August 07, 2008)