1067-76-514 **Dambaru Bhatta*** (`bhattad@utpa.edu`), Department of Mathematics, The University of Texas-Pan American, 1201 West University Drive, Edinburg, TX 78539, and **Daniel N. Riahi**.
Permeability effect on magneto-convection in a mushy layer.

Here we consider a horizontal mushy layer which arises during solidification of binary alloys and study permeability effect on marginal stability due to magneto-convection in a mushy layer. The mushy layer, which has a permeable mush-liquid interface, is treated as a porous medium with variable permeability. The flow in the mushy layer can be described by a system of seven partial differential equations. We present our numerical results for effect of permeability on the flow. (Received September 07, 2010)