1116-49-1940 **John V Matthews*** (matt-matthews@utc.edu), 615 McCallie Ave, Dept 6956, Chattanooga, TN 37363, and **Boris P Belinskiy** and **Don B Hinton**. *The leading mode in an ice-covered ocean wave guide.* Preliminary report.

Wave propagation is studied for a layered ocean wave guide covered by pack ice. The standard separation of variables leads to a Sturm–Liouville problem in the cross–section of the wave guide. We find the leading mode that is the separated solution for the maximal eigenvalue. Assuming that the speed of propagation varies within the given physical limits, we identify the minimum and maximum wave numbers of that leading mode. A numerical study of the problem allows us to evaluate the leading wave number (eigenvalue) and comment on physical properties of the system. (Received September 21, 2015)