1116-35-862   **Natalie Elizabeth Sheils*** (`nesheils@umn.edu`). *Initial-to-Interface Maps.*

A map from the initial conditions to the values of the function and its first spatial derivative evaluated at the interface is constructed for the heat equation on an infinite domains with n interfaces. The existence of this map allows changing the problem at hand from an interface problem to a boundary value problem which allows for an alternative to the approach of finding a closed-form solution to the interface problem. (Received September 14, 2015)