1162-35-103 **ALVIS ZHAODH***, 1132 Saluda Ct., 5, 5, Chapel Hill, NC 27514, and **Mark Williams**.

Hyperbolic boundary problems with large oscillatory coefficients on small frequency region.

We study weakly stable hyperbolic boundary problems with highly oscillatory coefficients that are large, $O(1)$, compared to the small wavelength ϵ of oscillations. Such problems arise, for example, in the study of classical questions concerning the stability of Mach stems and compressible vortex sheets. For such applications one seeks to prove energy estimates that are in an appropriate sense "uniform" with respect to the small wavelength ϵ, but the large oscillatory coefficients are a formidable obstacle to obtaining such estimates. In this paper we analyze a simplified form of the linearized problems that are relevant to the above stability questions, and obtain positive results in the small frequency region with the approach presented in [Wi19] under "unfavorable" conditions. We also construct geometric optics solutions for those systems as applications to the main estimation theorem. (Received August 27, 2020)