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Asymptotic linear stability of line solitary waves of the Benney-Luke equation

In this talk, I will consider linear stability of line solitary waves of the two-dimensional Benney-Luke equation which is an isotropic long wave model of three dimensional water waves. If the surface tension is weak, then small line solitary waves are spectrally stable in a weighted space whose weight function grows exponentially in the direction of the motion of the line solitary wave. Thanks to the transversal effect, there appears a curve of continuous eigenvalues that touches 0 and locates in a stable half plane and all the rest of the spectrum of the linearized operator is apart from the imaginary axis as is the case with the KP-II equation.