Kelvin-Helmholtz instability in radiative jets: analytical and numerical study EMERIC FALIZE, CEA-LUTH, FREDERIC DIAS, ENS Cachan, SERGE BOUQUET, CEA-LUTH, NICOLAS CHARPENTIER, CEA — We study the influence of cooling on the Kelvin-Helmholtz instability in the context of astrophysical and laboratory jets. It is clear that YSO jets spread into interstellar medium and consequently they may develop shear instability. We know that YSO jets are radiative (radiative energy losses) and therefore the cooling can play an important role in the morphologic and dynamic evolution of jets [Blondin et al., ApJ **360** 370-386 (1990)]. Thus we study the feedback of the radiative process in the development of Kelvin-Helmholtz instability. We derive the dispersion relation in the linear stability and obtain the different stability branches numerically. These results will permit to validate numerical codes in order to study non-linear regimes.

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Date submitted: 11 Jan 2008