

# DAMPING OF KINK OSCILLATIONS IN CURVED CORONAL LOOPS

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The kink modes of oscillation of a curved toroidal loop have been studied. We use a power-law density profile and we find that there are two kink modes and that their velocity polarization are either mainly horizontal or mainly vertical with respect to the photosphere. Also, we have found that the damping by resonant absorption in an inhomogeneous layer between the loop and the coronal environment is slightly more efficient than for the straight magnetic cylinder and that the period and damping time of the two kink modes are very similar. Moreover, in an equilibrium with nonuniform Alfvén frequency, the kink modes display two additional features: the coupling to an Alfvén mode of the external medium and wave leakage by tunneling at some distance from the loop, i.e. the modes are resonantly damped and leaky at the same time.