AcDc - A new code to calculate the vertical structure of accretion disks

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We present a new code to calculate the vertical structure of accretion disks in cataclysmic variables. The disk is divided into concentric rings, each ring is treated like an independent plane-parallel radiating slab. We first calculate a gray LTE model and then a NLTE model of the ring. Finally we integrate over all ring spectra to get the spectrum of the full disk for a specific inclination angle. The system of hydrostatic and radiative equilibrium, atomic level populations and particle conservation is solved consistently with the radiative transfer. This allows to calculate detailed theoretical spectra of accretion disks. Comparison with observations will allow to derive radial temperature distribution, mass accretion rate, viscosity and chemical composition. We also plan to compare our vertical structures to those of hydrodynamic simulations in order to estimate the influence of a detailed radiation transport on the stratification.