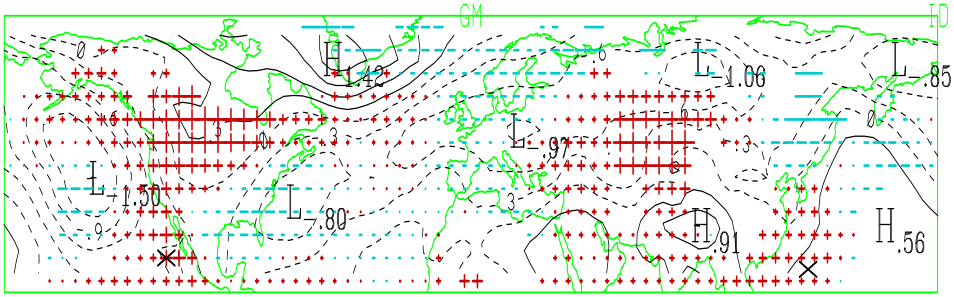
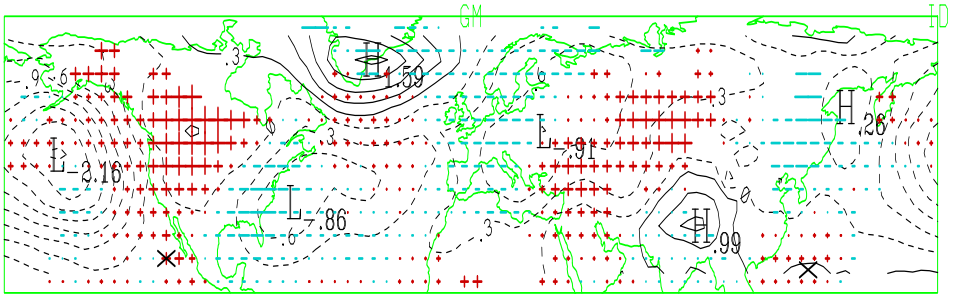
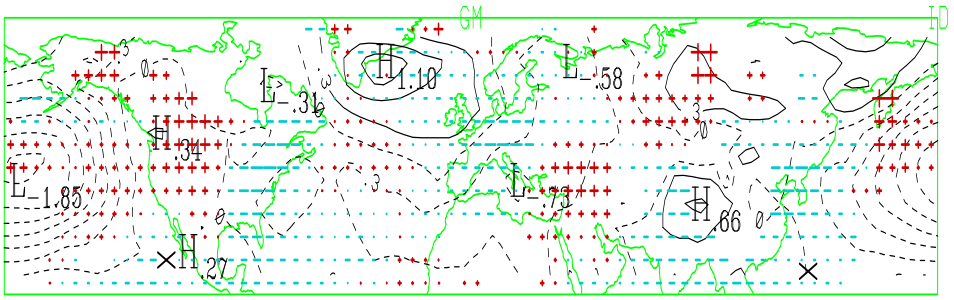
$\theta = 0^o \quad t = 0$



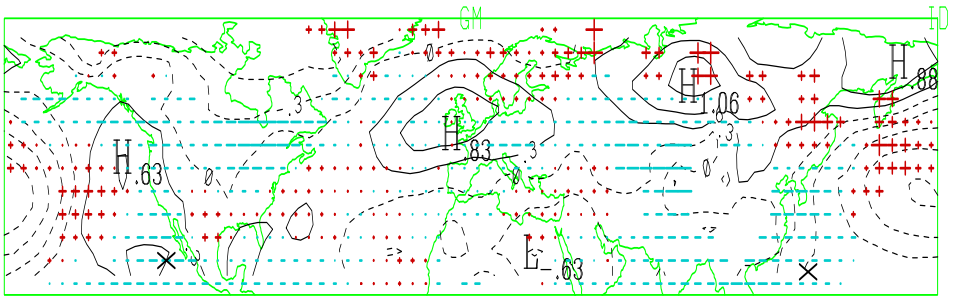
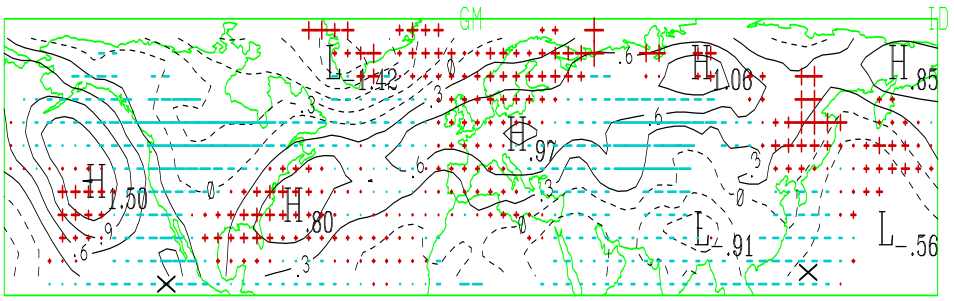
$\theta = 45^o \quad t \sim 0.7$



$\theta = 90^o \quad t \sim 1.4$



$\theta = 135^o \quad t \sim 2.0$



$\theta = 180^o \quad t \sim 2.7$