The transport between the stratosphere and mesosphere is controlled by the large-scale Brewer-Dobson circulation. This thesis investigates the influence of greenhouse gases and ozone-depleting substances on the development of vertical flow in the middle atmosphere for the period 1960-2080, especially integrated flows through the stratopause.
The vertical flow analysis is based on the residual stream function, the data of which were obtained by calculation from chemistry–climate models within the Chemistry–Climate Model Initiative (CCMI-1) . The results of the work show a clear effect of increasing concentration of greenhouse gases in the atmosphere on the amplification of the deep branch of the Brewer-Dobson circulation, both in ascending and descending movements.