

1 Results

1.1 NVU1.1

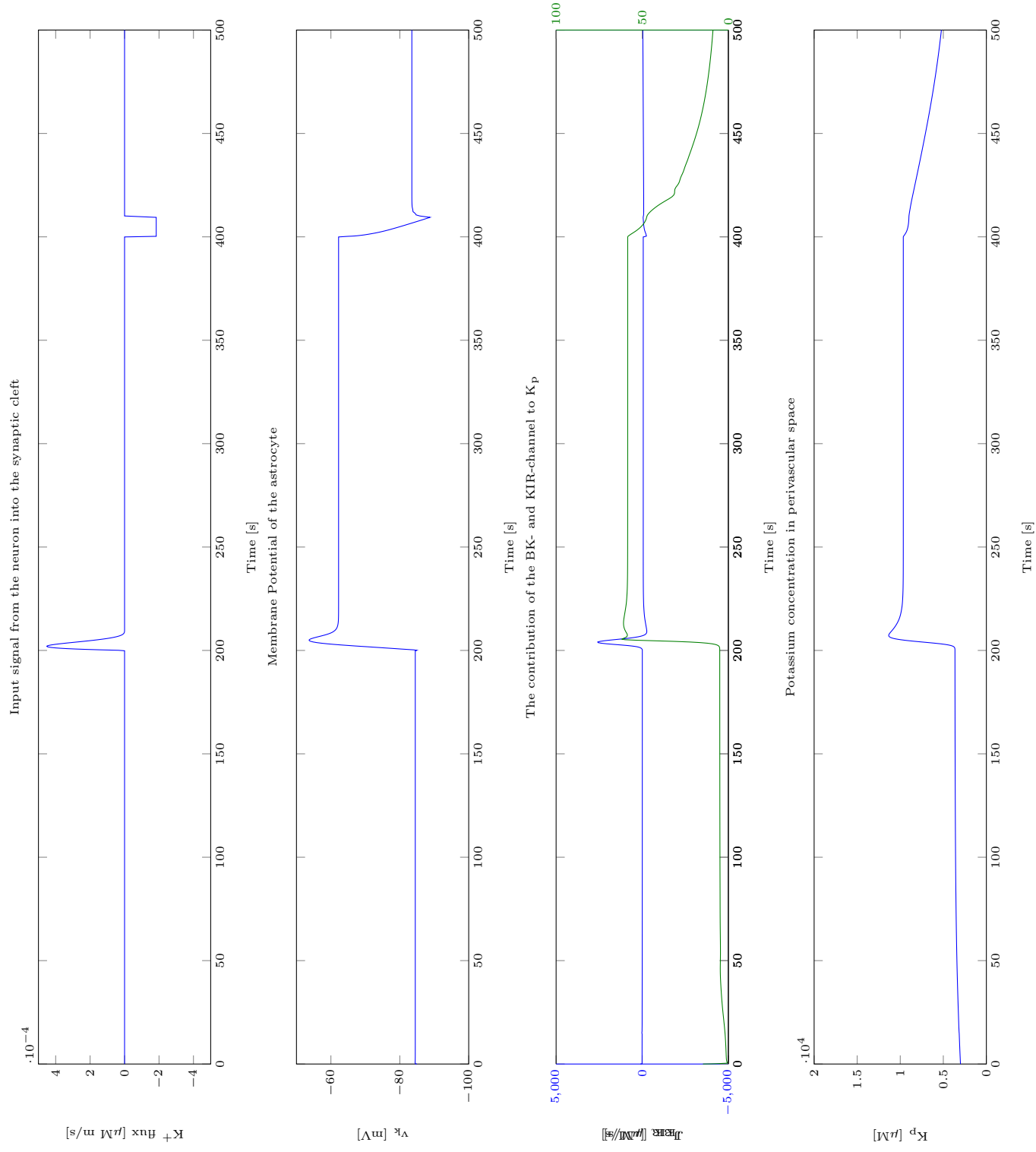


Figure 1: The input signal

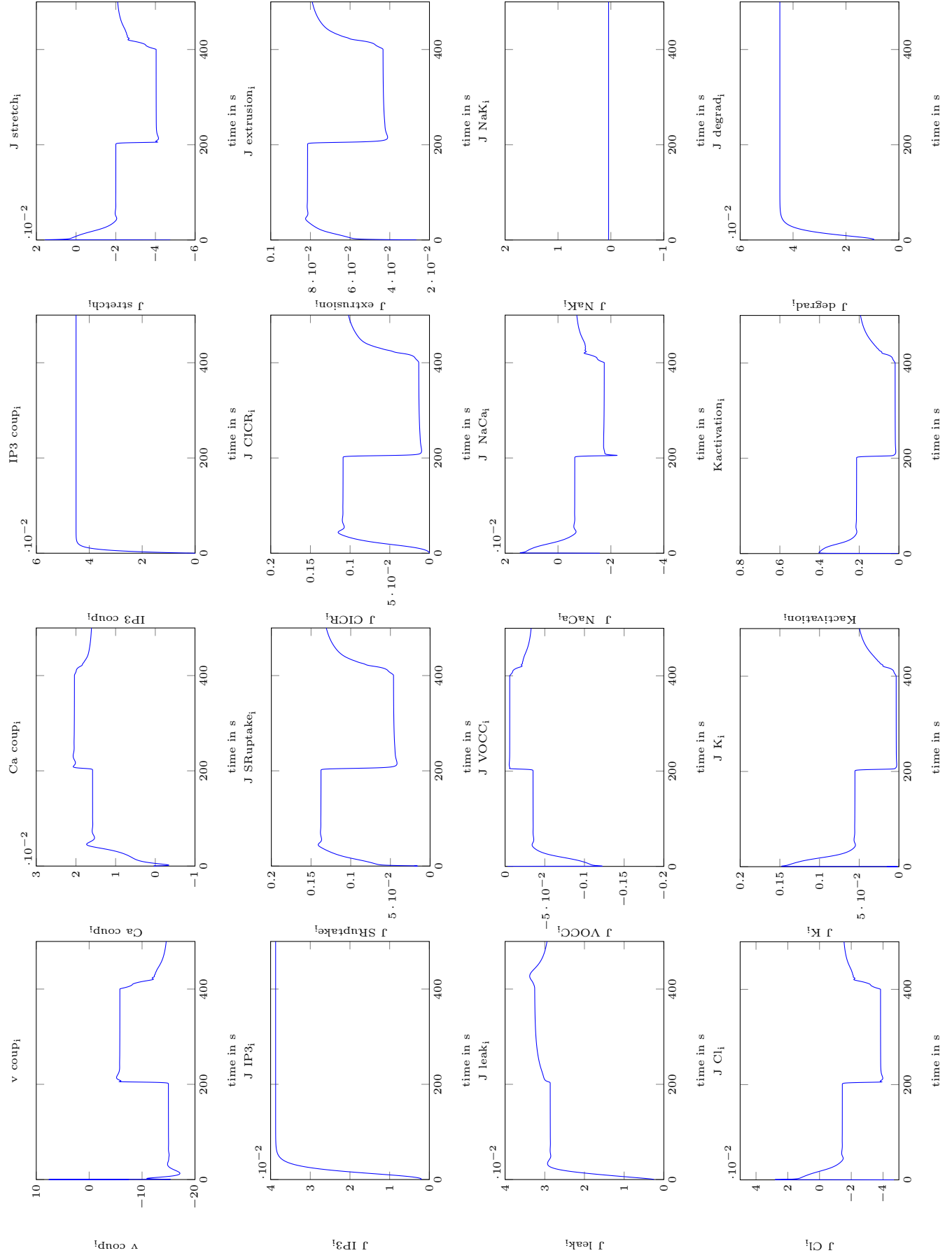


Figure 2: The SMC fluxes

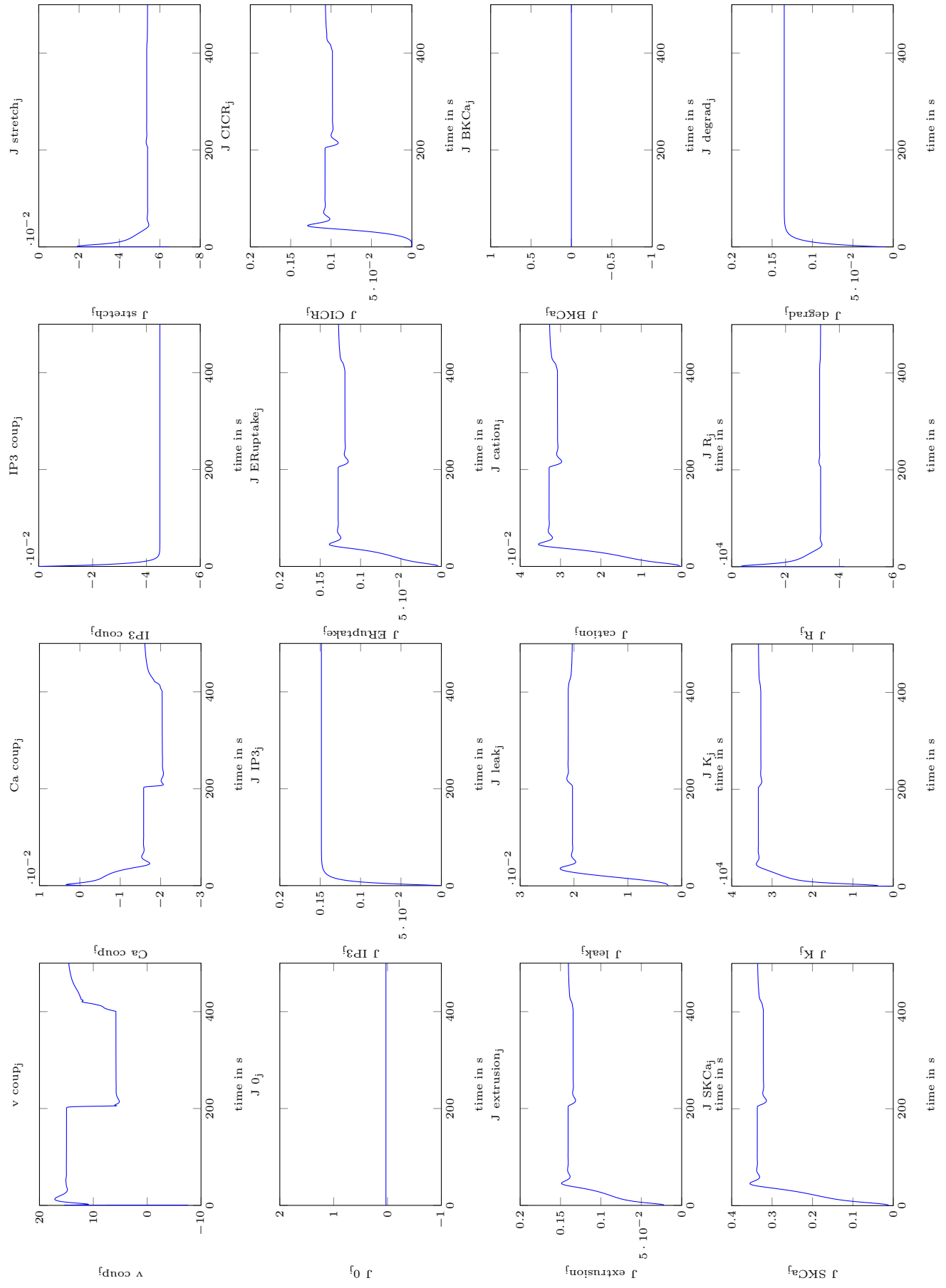


Figure 3: The EC fluxes

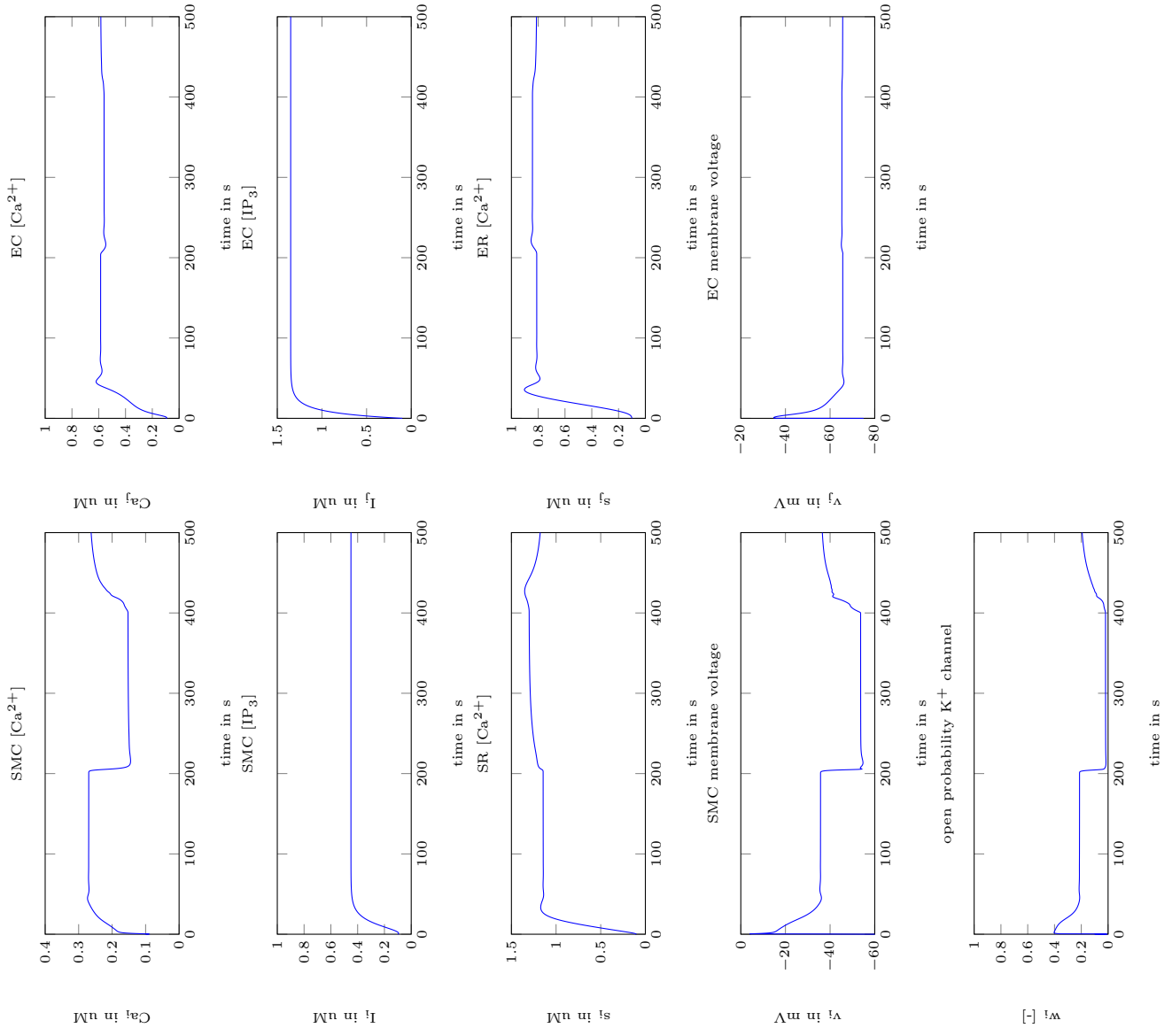


Figure 4: Solutions of the differential equations

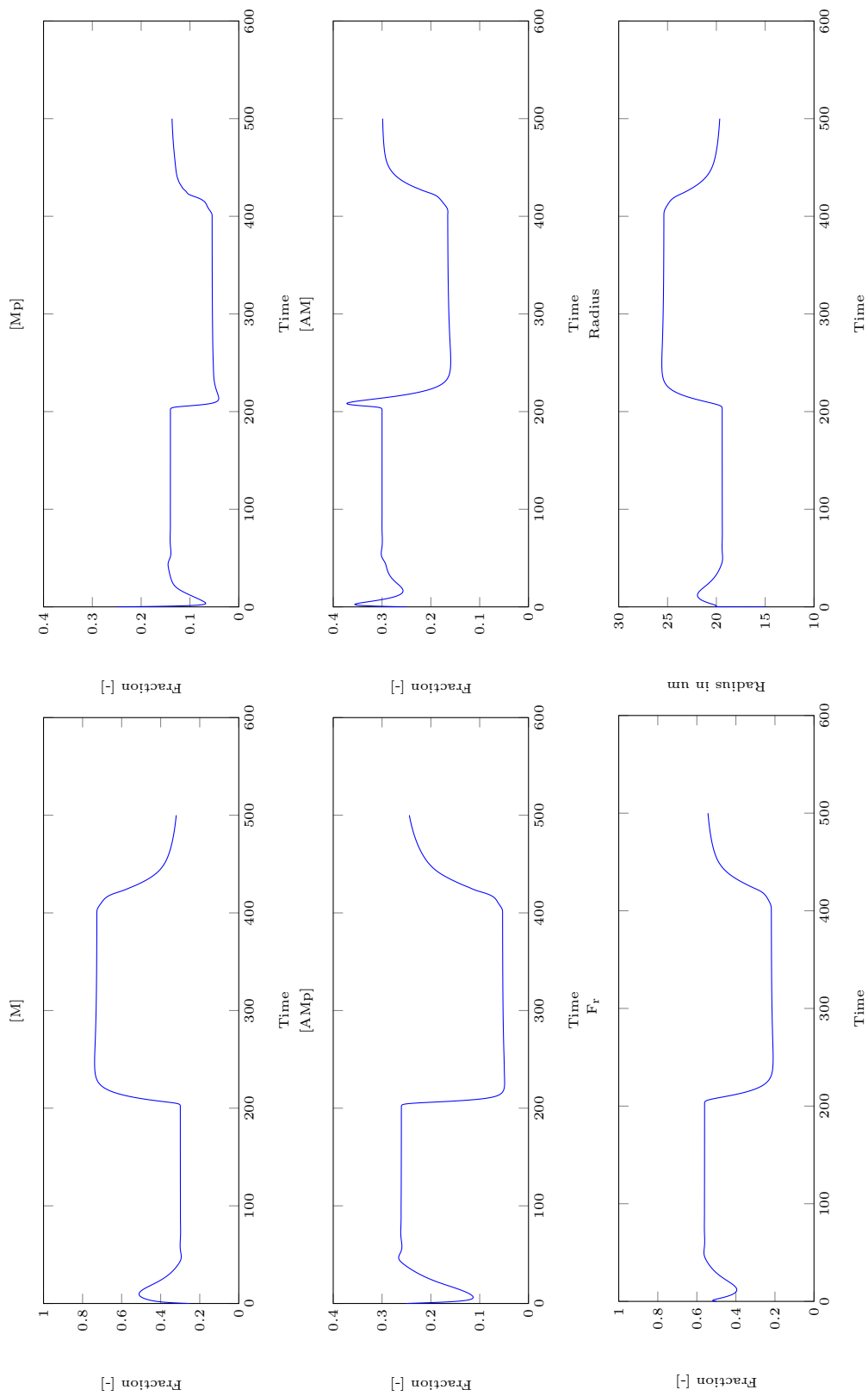


Figure 5: The Myosin Contraction model

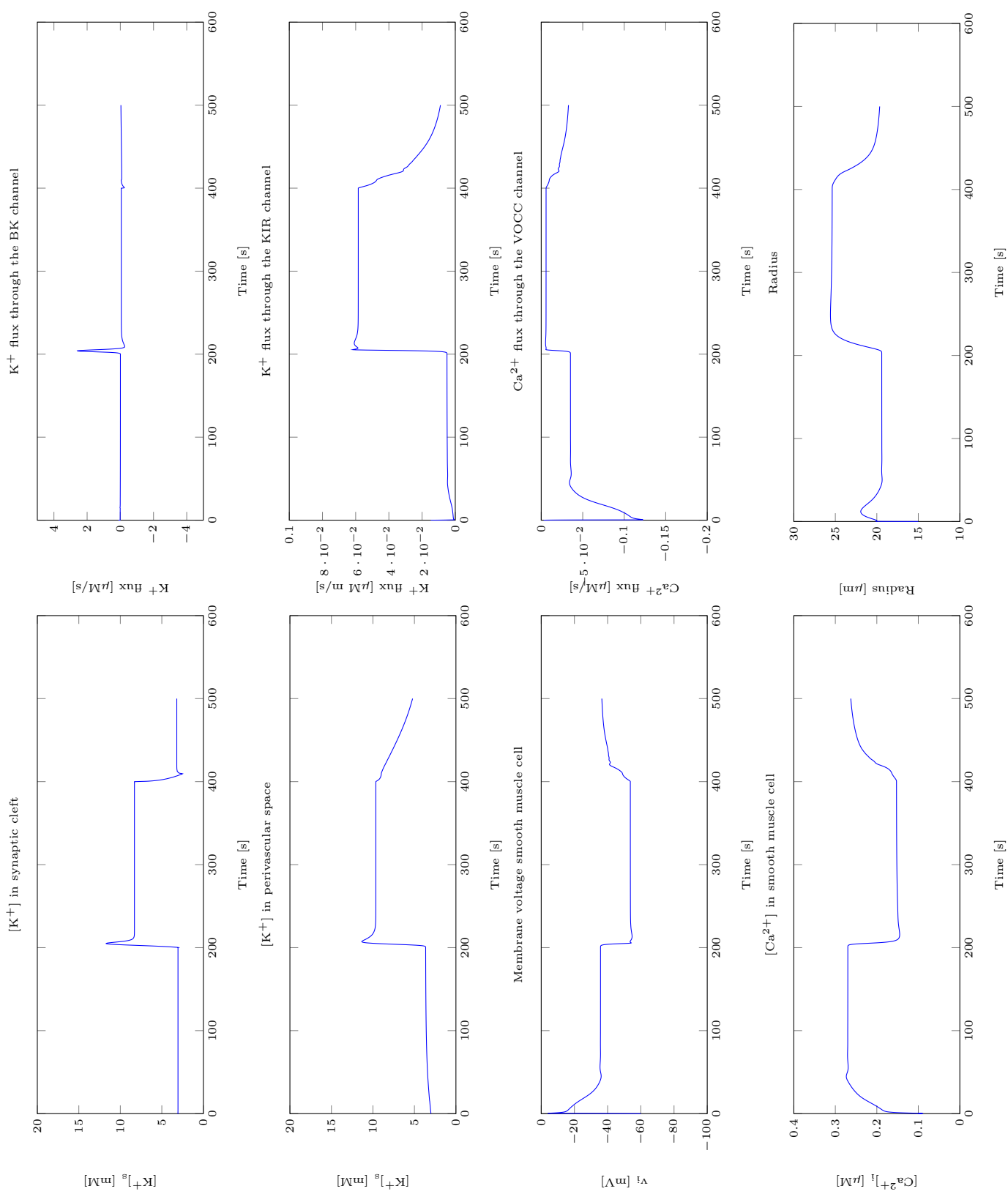


Figure 6: Summary describing effects from the input signal to radius change

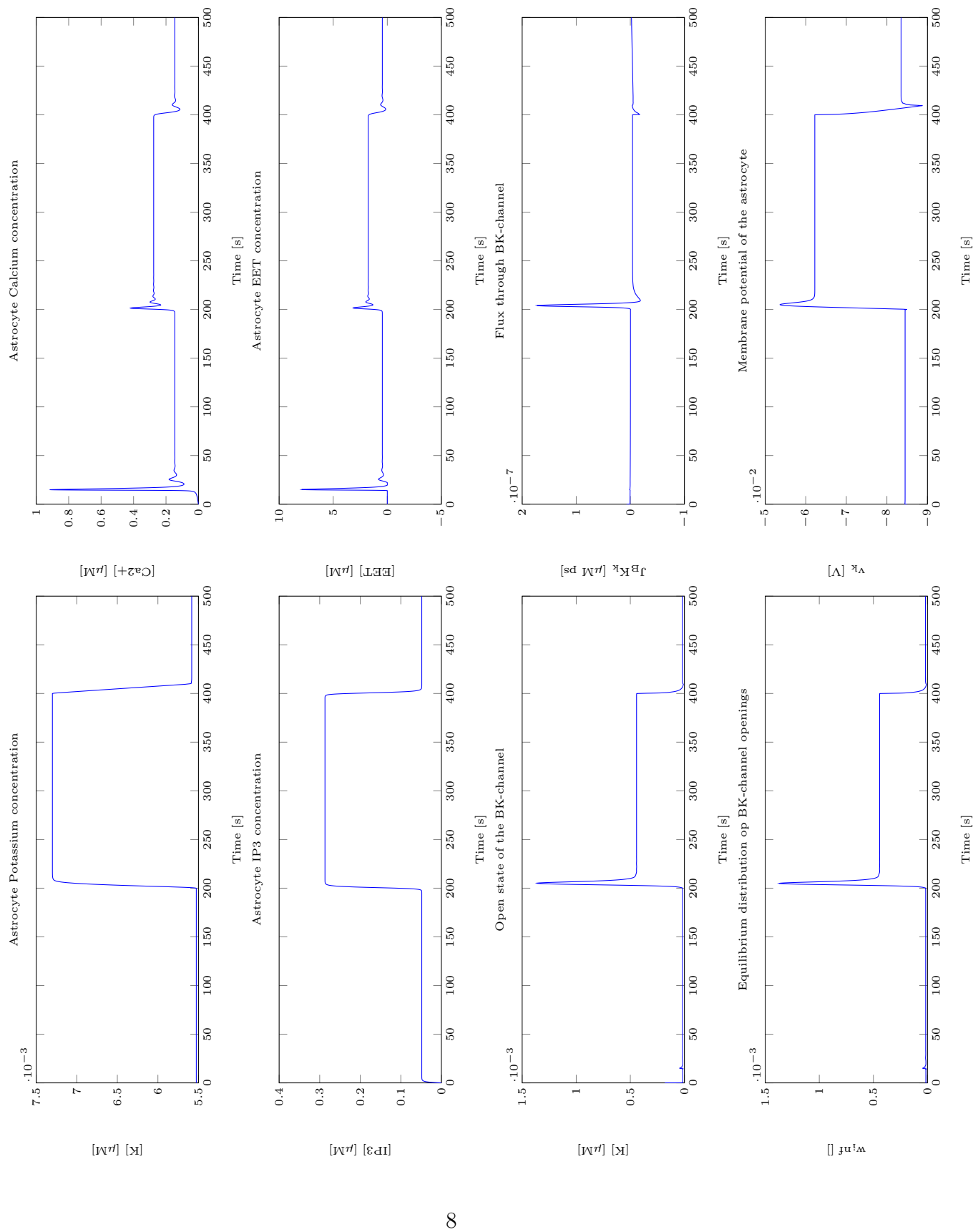


Figure 7: The solutions of astrocytic equations and the BK-channel

1.2 NVU1.1 compared to NVU1.0 (figure 8) and (figure 9)

The main thing that stands out is the slow outflux of Potassium in the Perivascular space at the end of the pulse. (figure 8 bottom graph) This change is due to a smaller negative flux in the BK-channel, which can be seen in figure 9 top right graph. This indicates that with the current calcium and EET concentrations in the astrocyte, there are fewer open BK-channels compared to NVU1.0. Looking at the graphs in figure 9 this means that it takes a longer time to reach the steady state after the end of the pulse, resulting in smoother changes.

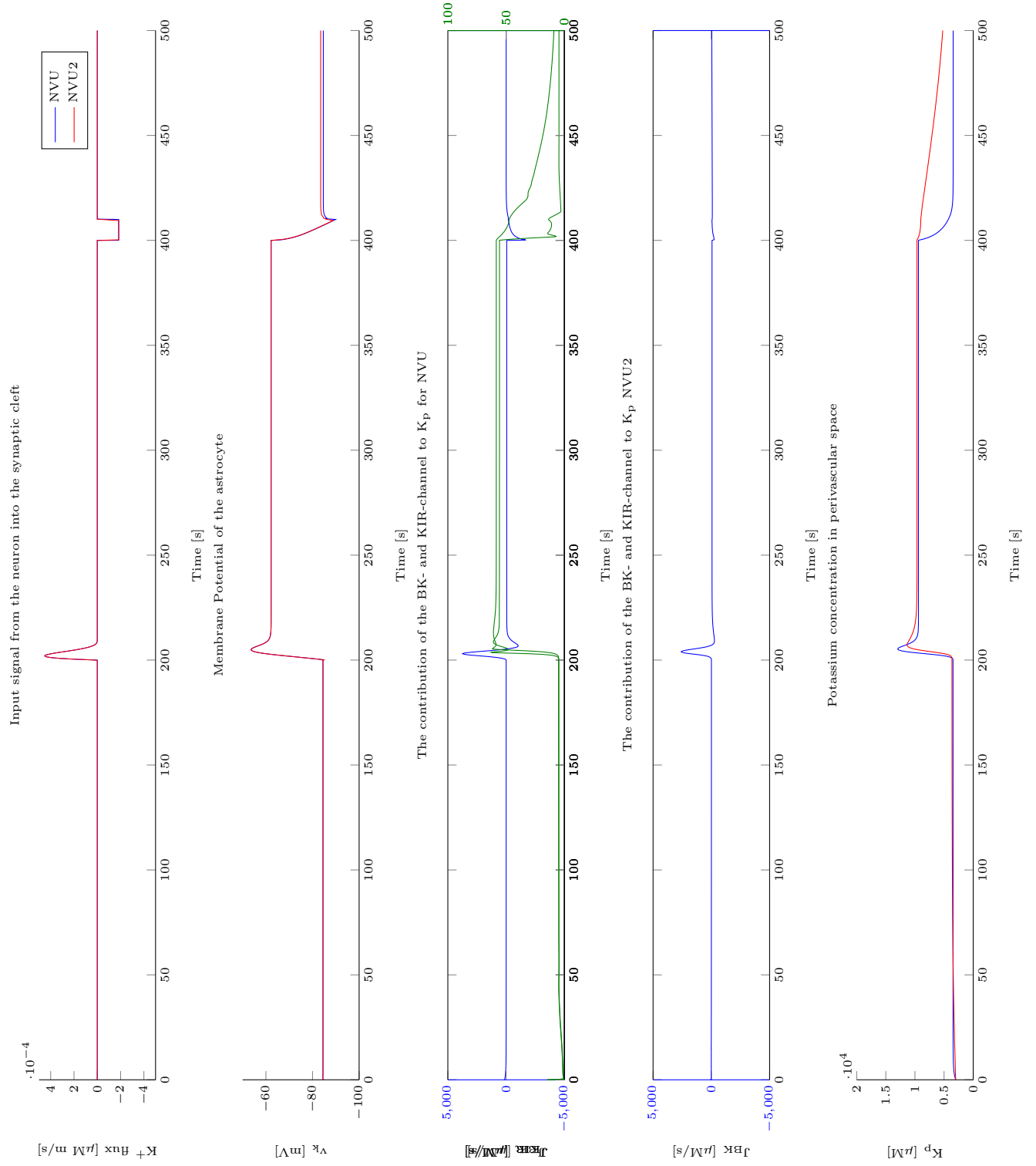


Figure 8: Overview 1, differences between NVU 1.1 & 1.1

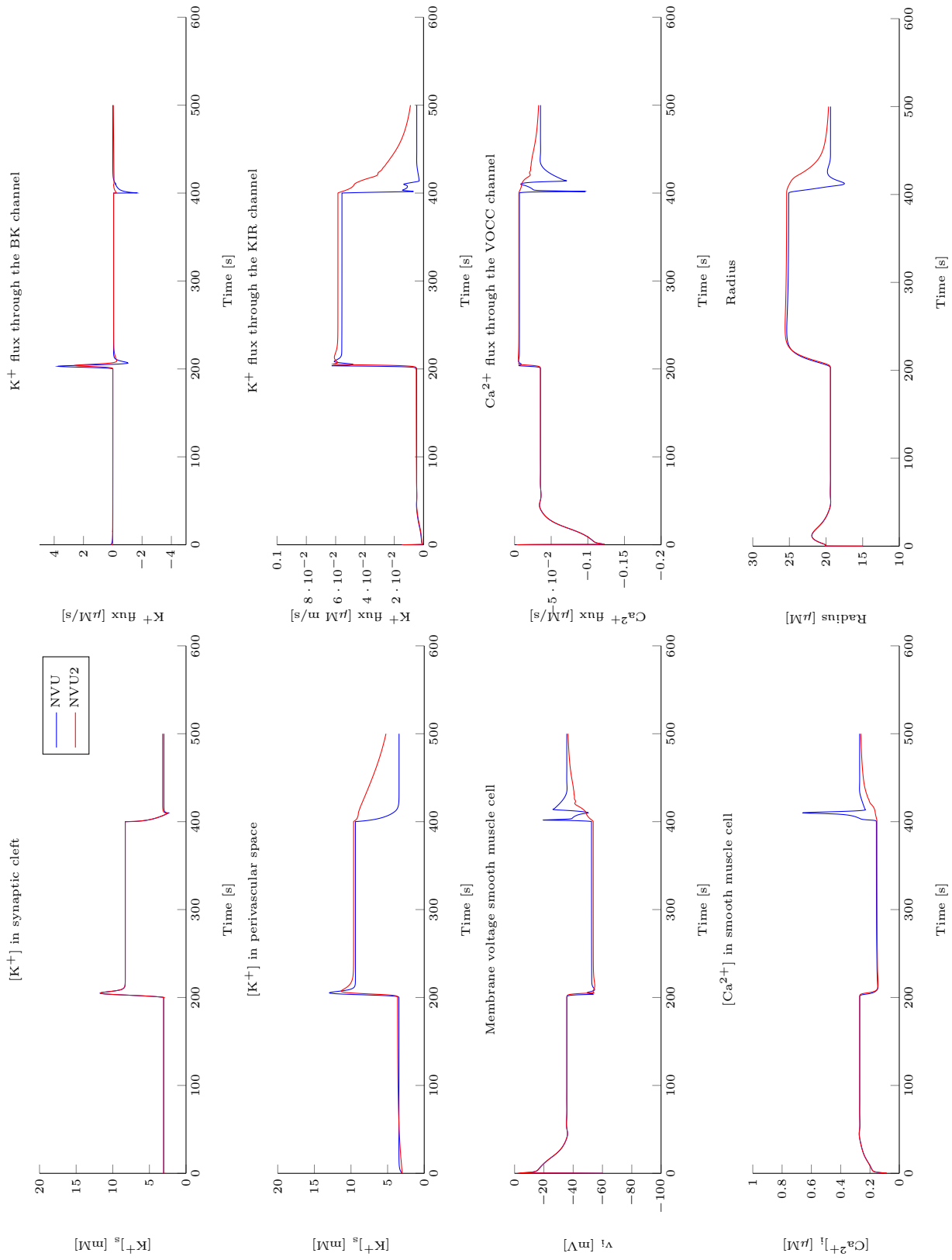


Figure 9: Overview 2, differences between NVU 1.1 & 1.1

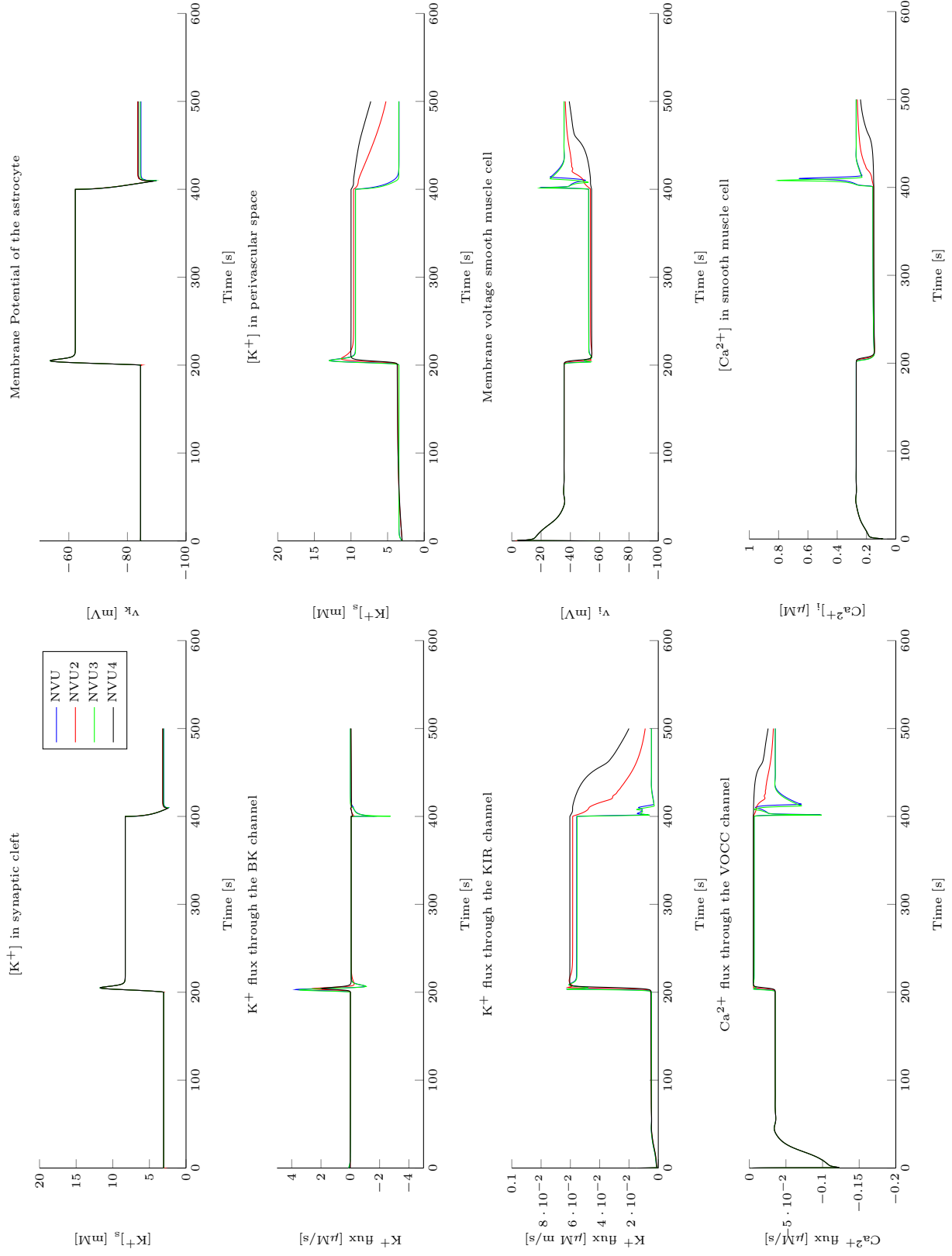


Figure 10: The effects of different regulation of the BK-channel

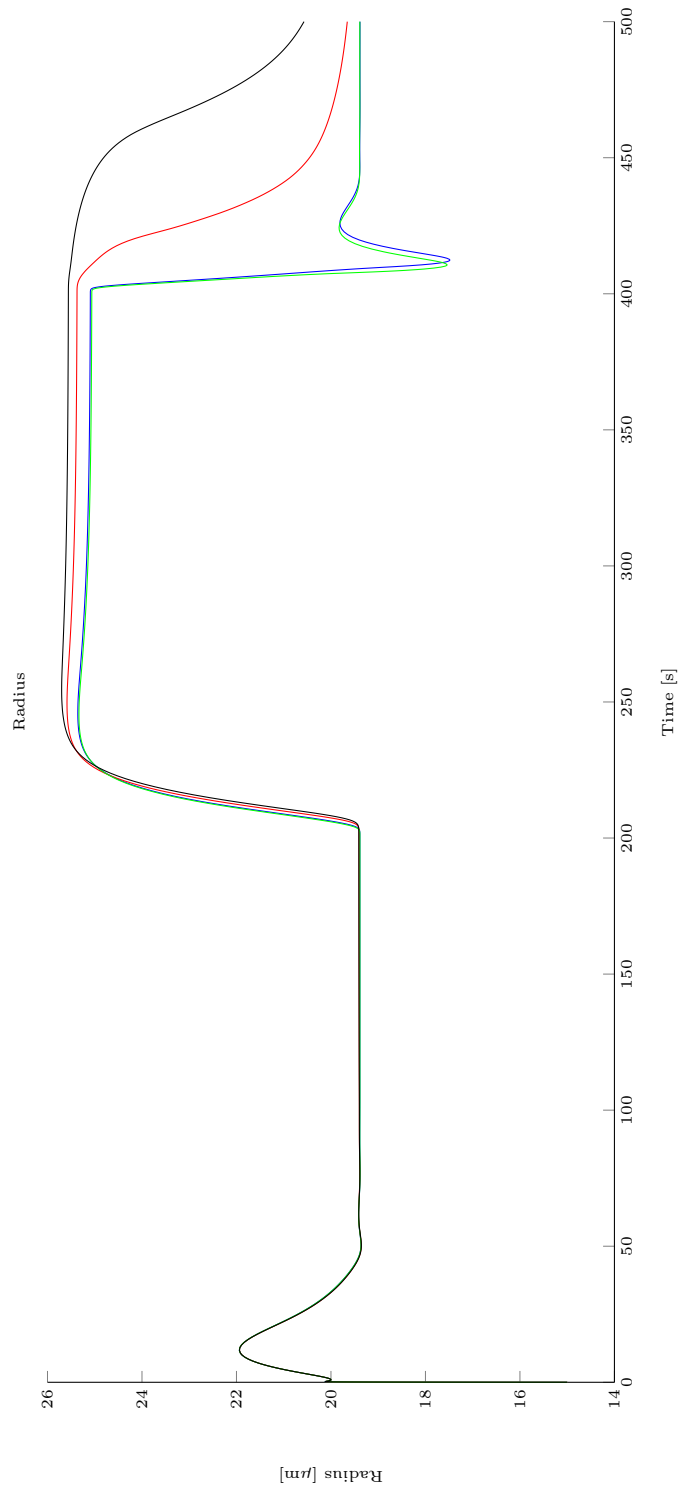


Figure 11: Radius change for different BK-channel regulations