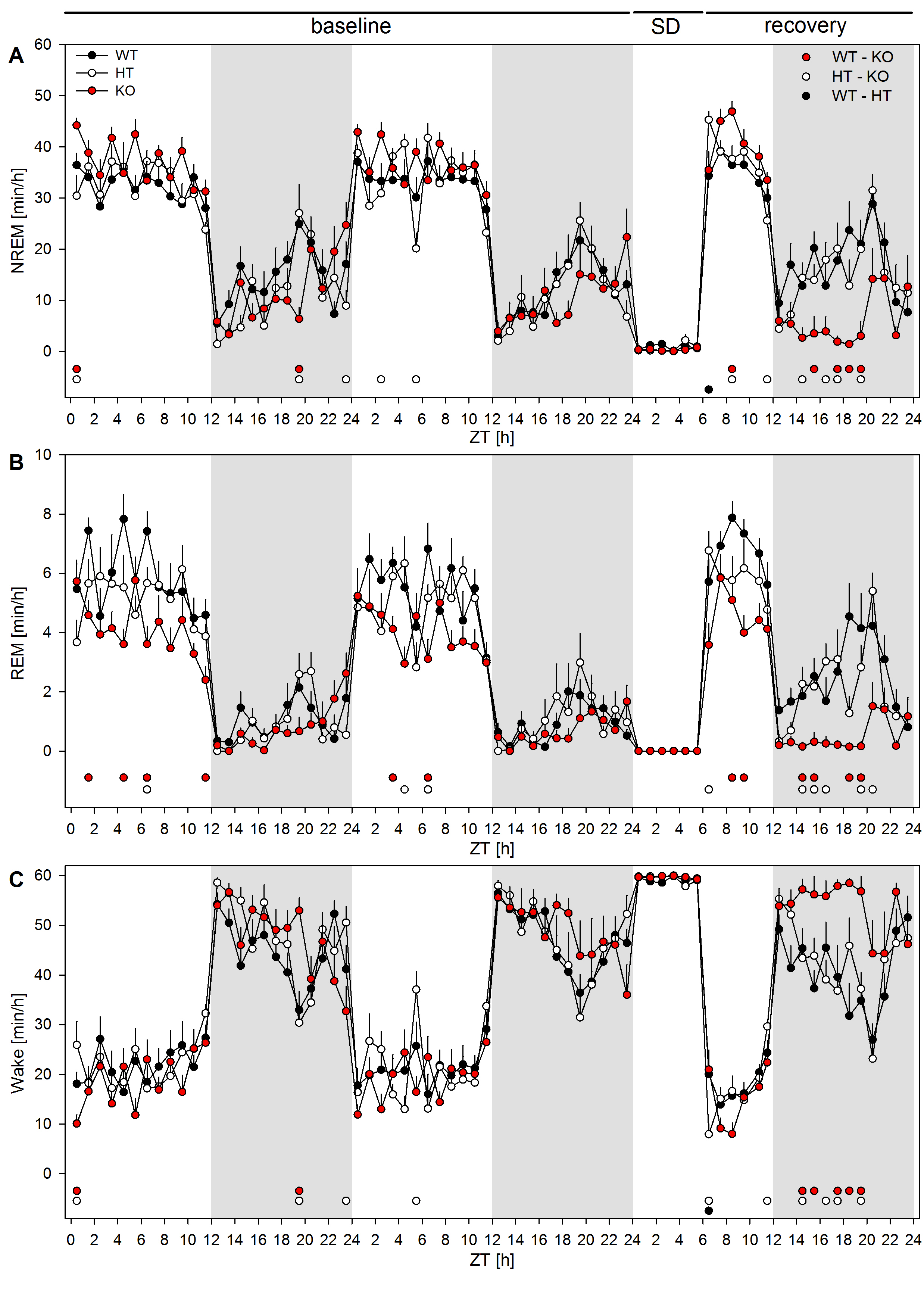
**Figure 6 - figure supplement 1.** The effect of mGluR5 across vigilance states and sleep deprivation in mice.



The figure illustrates the time spent in each of the three vigilance states NREM sleep (top) REM sleep (middle) and wakefulness (bottom) in minutes per hour of recording in wild type (WT, black), heterozygote (HT, white) and mGluR5 knock-out (KO, red) mice. After two baseline days 6 hours of sleep deprivation started at the beginning of the light phase and was followed by 18 hours recovery. Significant differences between the genotypes were observed at several time points across the 72-hour protocol. After sleep deprivation the KO mice showed a clear suppression of NREM sleep and increase of wakefulness. This effect is in sharp contrast to the NREM and REM sleep rebound observed in WT and HT mice at the cost of wakefulness. Overall repeated measures 2-way ANOVAs revealed significant ‘genotype x hour’ interaction for all three vigilance states (F46,483 > 2.38, pall < 0.0001), n=8 mice / genotype. Post-hoc testing was performed by hourly 1-way ANOVAs with factor ‘genotype’, followed by Holm corrected t-tests; baseline 1: NREM sleep F2,21 > 3.8, p all < 0.04, WT – KO (red dots) and HT – KO (white dots) pall < 0.04; REM sleep F2,21 > 5.7, p all < 0.02, WT – KO p all < 0.02, HT – KO p all < 0.05; Wake F2,21 > 4.0, pall < 0.04, WT – KO and HT – KO pall < 0.04; baseline 2: NREM sleep F2,21 > 3.8, pall < 0.04, HT – KO pall < 0.04; REM sleep F2,21 > 3.9, pall < 0.04,WT – KO pall < 0.02, HT – KO pall < 0.05; Wake F2,21 > 6.8, HT – KO p < 0.003; recovery: NREM sleep F2,21 > 3.8, pall < 0.04, WT – KO pall < 0.05, HT – KO pall < 0.03, WT – HT (black dots) pall < 0.01; REM sleep F2,21 > 4.9, pall < 0.02, WT – KO pall < 0.05 , HT – KO pall < 0.03; Wake F2,21 > 3.8, pall < 0.04, WT – KO pall < 0.05, HT – KO pall < 0.04, WT – HT pall < 0.02.