



**S8 Fig. Effect of neuromodulation on the mean oscillatory frequency  $\omega$ .** The frequency falls in the Theta range (4-8 Hz) of the EEG spectrum in both the **A** ( $\alpha, \beta$ ) and **B** ( $\alpha, r_0$ ) parameter spaces. In the first case we fixed  $r_0 = 0.56 \text{ mV}^{-1}$ , and in the second one  $\beta = 0.4$ . The frequency drop off matches with phase synchronization (see Fig 5).