

## Supplementary figure 1.

(A) Interictal EEG during sleep showing spikes-waves/sharp waves in the left mid-post-temporal region predominantly. (B) Ictal EEG with polygraphic recording of an asymmetric tonic seizure during sleep showing onset of a tonic contraction in the left arm associated with a rhythmic sharp 5-6-Hz activity arising from the right fronto-central region and spreading to the right posterior region, the midline and contralaterally to the left fronto-centro-temporal regions. (C-E) Electrical source imaging of ictal epileptic EEG activity by classic LORETA analysis recursively applied (CLARA) (BESA Research 6.1 software): mapping of the averaged ictal EEG signal (C) showing rhythmic ictal activity with highest amplitude in the right central region (D); the source-model is localized in the right perisylvian region, in the posterior part of the right temporal operculum/close to the posterior part of the insula (E). L-: left; Bic.B: biceps brachii muscle; Delt: deltoid muscle; R-: right; Tib.A: tibialis anterior muscle; y: years.

