SUPPLEMENTAL MATERIAL – FIGURE CAPTIONS

Figure S1: Indices values calculated by removing arousal-related movements (configuration 2). a) REM atonia index (RAI), b) supra-threshold REM activity metric (STREAM), c) Frandsen index (FRI), d) short muscle activity index (sMAI), e) long muscle activity index (lMAI), and f) Kempfner index (KEI) across subject groups shown as box plots with crosses denoting group means. Post-hoc statistical comparison performed with Mann-Whitney U-test with Tukey-Kramer correction *: p<0.05, **: p<0.01, ***: p<0.001. C: healthy controls, PD+/−RBD: Parkinson’s disease subjects with and without RBD, RBD: subjects suffering from idiopathic REM sleep behavior disorder and PLMD: subjects suffering from periodic limb movement disorder.

Figure S2: Indices values calculated by removing whole-apnea-related movements (configuration 3). a) REM atonia index (RAI), b) supra-threshold REM activity metric (STREAM), c) Frandsen index (FRI), d) short muscle activity index (sMAI), e) long muscle activity index (lMAI), and f) Kempfner index (KEI) across subject groups shown as box plots with crosses denoting group means. Post-hoc statistical comparison performed with Mann-Whitney U-test with Tukey-Kramer correction *: p<0.05, **: p<0.01, ***: p<0.001. C: healthy controls, PD+/−RBD: Parkinson’s disease subjects with and without RBD, RBD: subjects suffering from idiopathic REM sleep behavior disorder and PLMD: subjects suffering from periodic limb movement disorder.

Figure S3: Indices values calculated by removing side-apnea-related movements (configuration 4). a) REM atonia index (RAI), b) supra-threshold REM activity metric (STREAM), c) Frandsen index (FRI), d) short muscle activity index (sMAI), e) long muscle activity index (lMAI), and f) Kempfner index (KEI) across subject groups shown as box plots with crosses denoting group means. Post-hoc statistical comparison performed with Mann-Whitney U-test with Tukey-Kramer correction *: p<0.05, **: p<0.01, ***: p<0.001. C: healthy controls, PD+/−RBD:
Parkinson’s disease subjects with and without RBD, RBD: subjects suffering from idiopathic REM sleep behavior disorder and PLMD: subjects suffering from periodic limb movement disorder.

**Figure S4: Indices values calculated by removing arousal and whole-apnea-related movements (configuration 5).** a) REM atonia index (RAI), b) supra-threshold REM activity metric (STREAM), c) Frandsen index (FRI), d) short muscle activity index (sMAI), e) long muscle activity index (lMAI), and f) Kempfner index (KEI) across subject groups shown as box plots with crosses denoting group means. Post-hoc statistical comparison performed with Mann-Whitney U-test with Tukey-Kramer correction *: p<0.05, **: p<0.01, ***: p<0.001. C: healthy controls, PD+/−RBD: Parkinson’s disease subjects with and without RBD, RBD: subjects suffering from idiopathic REM sleep behavior disorder and PLMD: subjects suffering from periodic limb movement disorder.

**Figure S5: Indices values calculated by removing arousal and side-apnea-related movements (configuration 6).** a) REM atonia index (RAI), b) supra-threshold REM activity metric (STREAM), c) Frandsen index (FRI), d) short muscle activity index (sMAI), e) long muscle activity index (lMAI), and f) Kempfner index (KEI) across subject groups shown as box plots with crosses denoting group means. Post-hoc statistical comparison performed with Mann-Whitney U-test with Tukey-Kramer correction *: p<0.05, **: p<0.01, ***: p<0.001. C: healthy controls, PD+/−RBD: Parkinson’s disease subjects with and without RBD, RBD: subjects suffering from idiopathic REM sleep behavior disorder and PLMD: subjects suffering from periodic limb movement disorder.