**Protocol scheme**Visit 0: Screening visit (day -7 to -2): diagnostic interview, inclusion and exclusion criteria, informed consent, check the adequate antipsychotic treatment (dose and duration)  
Visit 1: Baseline (day -2 to 0): EEG, psychiatric scale (PANSS), RBANS test, and randomization.  
Patients will be randomly allocated to one of the two intervention groups: Day 1 to 5 (19) of treatment period: five to fifteen tDCS sessions (applied 5 times a week) of 1. active anodal tDCS simultaneously with active CT or 2. active CT and placebo anodal tDCS.  
Each session will be scheduled in following: tDCS (active or placebo) will last 30 min. After 2 min of adaptation on tDCS procedure CT lasting 45 min will begin. The parameters of both intervention is described in the trial proposal.  
Visit 2: (day 5 (21) ± 2): in case of five to fifteen sessions will be completed: psychiatric scale (PANSS) and RBANS test. If patient withdraw consent before visit 2 and less than five session will be completed, unscheduled visit X (early termination, classified as an early drop-out) will be carried out to exclude side effect or worsening of clinical status, and to record reasons for withdrawal.