

Two separated rooms have been prepared for such experiments, see Fig. 4(c): all PCs and heat producing elements were removed from measurement laboratory; thermo-insulating screens have been installed in windows and doors; the room was closed and operated without human intervention.

B. Methodology of experiments

Experiments are divided into two phases, with attention focused inside (the phase 1) and outside (the phase 2) the body. Experiments in the phase 1 are separated into three subgroups 1a, 1b, 1c and are also aimed at studying the effect of a meditator in ASC on closely spaced sensors. Since the human person irradiates heat, produces electrostatic fields, mechanical impacts and other 'classical interactions', measures were taken to isolate 'classical' from 'non-classical' factors. For example, a heat-insulating container with 3-5 liters of water delays the penetration of heat inside for 20-25 minutes, see Fig. 4(a); this enables conducting short-term meditative experiments. In other cases, the meditators were separated from the measurement systems by a reinforced concrete wall, see Fig. 4(b).

Experiments in the phase 2 are conducted with meditators in the operator room and differential calorimeters installed in measurement room (the distance is about 7-10 meters), separated by two concrete walls, see Fig. 4(c). A heat transfer between rooms takes about 3-4 hours. Thus, we can exclude a direct thermal influence of meditators on calorimetric sensors during experiments in the phase 2.

The meditative visualization during all experimental phases follows the tantric Tibetan techniques [15], [16] and Dhammakaya meditation [17]. The key parameters are long-term focused attention in ASC on a physical object (or internal organs in the body) and the state of consciousness (its cognitive and behavioral patterns in ASC). Example of EEG data in test experiments is shown in Fig. 3.

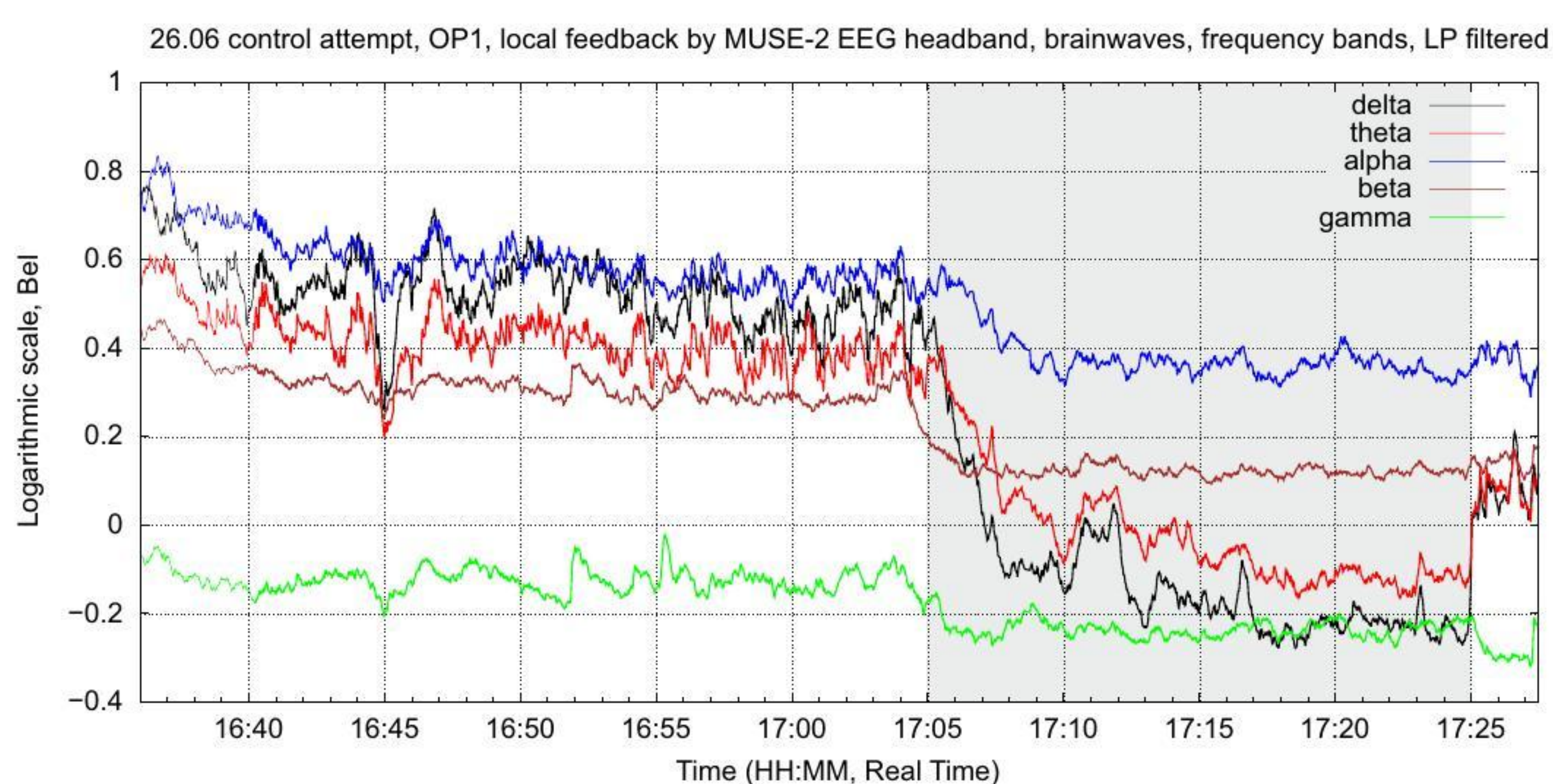


Figure 3. Example of EEG data in test experiments without biofeedback. The ASC area is shown as a gray bar.

As in other ASC experiments [5], [31], two-stage EEG dynamics with different microstates is observed. It should be noted that the initial stage of ASC takes about 10-15 minutes, when cognitive functions are restructuring from processing of external signals to internal visualizations. The depth of ASC depends on external distorting stimuli, mental efforts in maintaining the focus of attention, psychic and muscle relaxation.

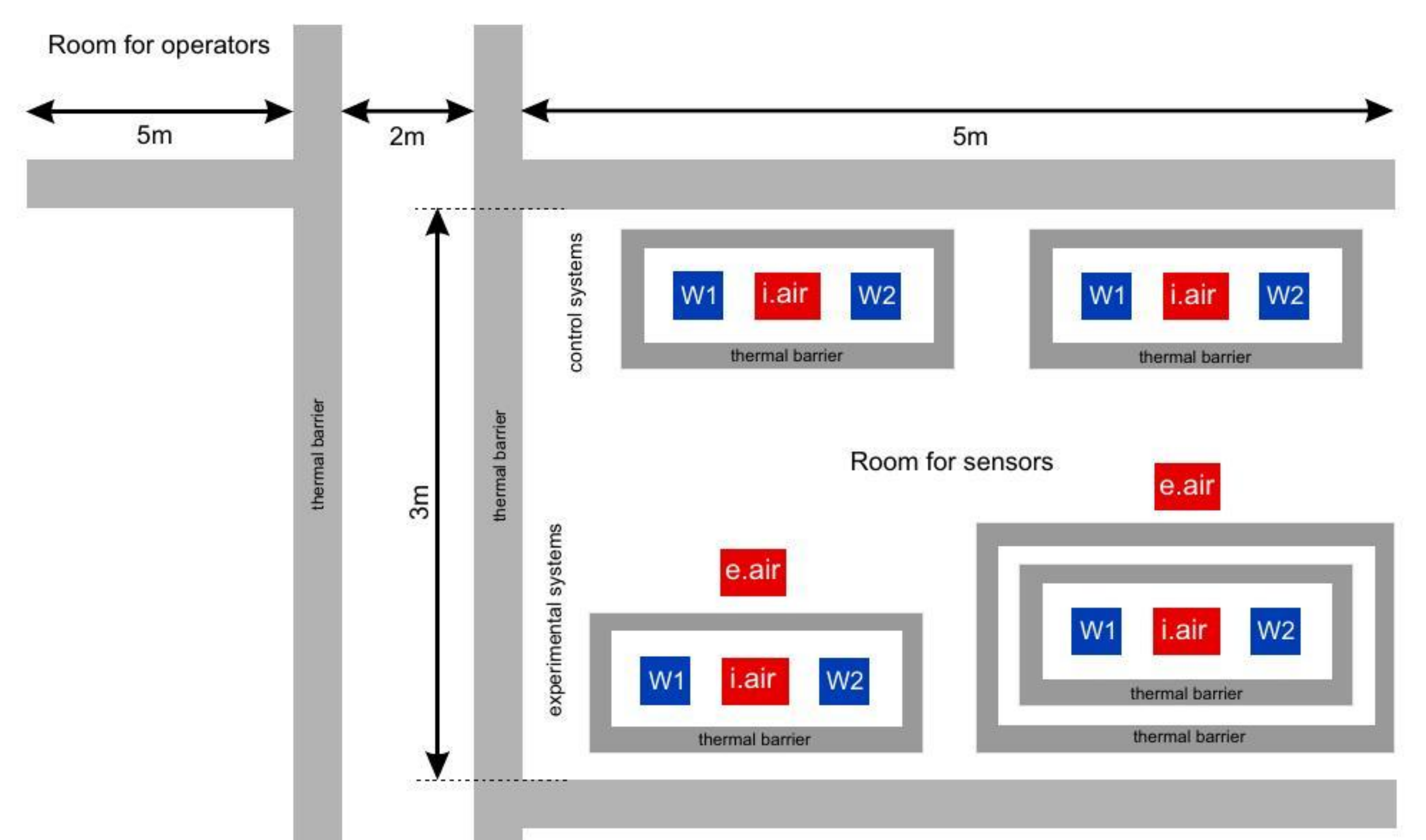
Evaluation of results follows the single factor methodology from other studies of Buddhist techniques [5], [17], [32]. The



(a)



(b)



(c)

Figure 4. (a,b) The phase 1 of experiments on studying the impact of a meditator in ASC on close surrounding objects at a distance of 1-3 meters with and without obstacles. (c) Scheme of two laboratories for the phase 2 of experiments, W1, W2 – water sensors, i.air, e.air – internal and external air sensors, totally 3 experimental and 3 control differential calorimeters are used experiments.