Supplementary material for

Structural and multi-scale rheophysical investigation of diphasic magneto-sensitive materials based on biopolymers

The home-made device built up to optically observe the mixtures of sodium alginate/citrated ferrofluid under applied magnetic field consists of two copper coils combined in parallel (Helmholtz geometry) powered by a voltage generator (0-10V) of controlled and uniform field B in the center (maximum of 4 mT). A glass capillary of rectangular section (300x3000 µm²), placed in the center of the coils, contained the solution to be studied. The observation is made using a binocular microscope equipped with a CCD camera.

Fig. 1: Experimental device for the under-field observation of nanocomposites sodium alginate solutions by optical microscopy. The diameter of the coils is 13.8 mm and their centers are separated by 0.74 cm. Near the center, the magnetic field is uniform and its direction is collinear with the revolution axis of the coils.