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**Thermal and PIV measurements of heat convection in a tilted channel** JEAN-CHRISTOPHE TISSERAND, MATHIEU CREYSSELS, BERNARD CASTAING, FRANCESCA CHILLA, ENS Lyon — The Rayleigh-Benard system, in which a fluid is cooled from above and heated from below, is one of the most studied systems in thermal convection. Nevertheless, in this configuration, the neighborhood of the plates controls the heat transfer. Subsequent, we have built a system (a vertical channel) where the flow forgets the cold and the hot plate. Moreover, we have built a structure which allows to tilt this channel from an angle of 0 to 90 degrees. The main goal of this paper is to highlight how the flow in the bulk of the inclined channel is. In a first part, we present new measurements obtained thanks to particle image velocimetry (PIV) technique and a model which interprets our results. The second part of the paper will be focused on thermal measurements and on the influence of the difference of temperature between the two plates.

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