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Some Aspects of Using Jets for Cooling

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ABSTRACT

Some Aspects of Using Jets for Cooling

The efficiency of removing excess heat by employing mixing ventilation is based on the properties of jets. Therefore the behaviour of jets in enclosures is important. A correct supply design is essential otherwise the jet will separate from the ceiling and drop into the occupied zone. This will give rise to unacceptable high velocities. The basic properties of jets in ideal situations like an infinite space are well known. However, in a room the jet interacts with the room air and the room surfaces. Therefore a research program on the basic properties of jets in rooms has been started at the institute. This paper reports the findings from both an experimental study comprising both model studies and full scale studies supplemented by numerical simulations of room flow.