

The investigation of superfluid helium (He II) flows is an active and challenging research field. Progress in our phenomenological understanding of the underlying physics has been achieved in recent years by employing flow visualization techniques that allow following the motion of relatively small particles suspended in the fluid. The flow-induced particle behaviour is studied in the case of thermal counterflow – the most common type of He II flow – close to the flow source, where a significant vorticity enhancement is observed. The work aim is therefore to give a significant contribution to the emerging line of scientific enquiry dedicated to the study of wall-bounded quantum flows.