# ON THE POSSIBLE JUMP OF $T_\lambda$ IN NANOFILMS OF He-II

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S u m m a r y

It is suggested that the microscopic vortex rings (MVRs) induce the $\lambda$-transition in helium-II and define substantially the value of $T_\lambda$. For very thin films of He-II with thickness $d$ less than the size of the smallest MVR, the rings do not fit in and do not exist in such films. As a result, a jump-like peculiarity for superfluid films of He-II should exist in the curve $T_\lambda(d)$ at $d$ approximately equal to the size of the smallest MVR, $d \approx (6 \pm 3)$ Å. The absence of a similar peculiarity will be an evidence for that MVRs do not influence the values of $T_\lambda$ and do not play any key role in the $\lambda$-transition. The currently available experimental data are insufficiently complete and precise for revealing the predicted peculiarity.