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$PrOs_4Sb_{12}$: what's about specific heat? Origin of the double transition?

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The specific heat of $PrOs_4Sb_{12}$ at low temperature, at zero magnetic field and ambient pressure is far from be understood. Actually the Schottky term due to CEF scheme is already higher than the measured specific heat. In collaboration with Igor Fomin, we propose to explain this discrepancy by taking into account the interaction between the ions Pr resulting in a distribution of the entropy to higher temperature. We also would like to discuss the possible origin of the double transition which disappears in some samples. Might it be due to Pr-void in the filled skutterudite structure? We will show 4 circles X ray diffraction results on different samples with different kind of superconducting transition (single and double).