

LIQUID-GAS PHASE TRANSITION FOR GIBBS POINT PROCESS WITH QUERMASS INTERACTION

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Abstract. We prove the existence of liquid-gas phase transition for continuous Gibbs point process with Quermass interaction. The Hamiltonian we consider is a linear combination of the volume, measure of the surface and the Euler-Poincaré characteristic of the halo of the particles. Using an adaptation of the Pirogov-Sinai-Zahradnik theory, we are able to prove a first order phase transition at low temperature for a critical activity.