

LABORATORI NAZIONALI DEL GRAN SASSO

SEMINAR ANNOUNCEMENT

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***Quark superfluidity in
the two-fluid formalism***

I will discuss the hydrodynamics of a relativistic superfluid from a field-theoretical point of view. In particular, I will show how to derive the commonly applied picture of interpenetrating superfluid and a normal fluid components from microscopic physics. As a direct result of this approach, I will present the velocities of first and second sound in the presence of a superflow. Our work has applications in the context of dense matter in compact stars, in particular for color-flavor locked quark matter.

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LNGS - “B. PONTECORVO” ROOM