Letter of Agreement

for the study of hexafluoroethane and perfluorobutane molecular properties

BETWEEN

the "Trieste Section of INFN"

AND

the "Institute of General and Physical Chemistry" in Belgrade

1. Scope of the agreement

On request of the Trieste team participating in the ePIC experiment at BNL (USA), the Trieste Section of INFN and the Institute of General and Physical Chemistry, Belgrade University, will perform a joint investigation of the properties of hexafluoroethane (C_2F_6) and perfluorobutane (C_4F_{10}) molecules to determine their:

- excitation states, light emission and absorption probabilities, in particular the scintillation probability in the visible and near UV range,

- kinetic diameter of the molecules, and other chemical properties relevant for the selective permeability of membranes,

- refractive index for the wavelength range between 200 nm and 900 nm,

- relevant properties of gas mixtures of hexafluoroethane and nitrogen.

- relevant properties of gas mixtures of hexafluoroethane and carbon dioxide.

2. Duration and cost of the agreement

The agreement has a validity of one year and a pure scientific and non-commercial basis.

The Institute of General and Physical Chemistry (IGPC), Belgrade University, will provide its recognized expertise in the field and will make available the dedicated research equipment already present at the Institute. The researchers who will conduct these investigations are Dr Nebojsa Begovic and Dr Jelena Jovanovic.

A contribution from the Trieste Section of INFN for an amount of **5000** Euro to cover the expenses related to the activities involved in the simulation and measurements performed by the Institute of General and Physical Chemistry, Belgrade University. The contribution will be paid upon receival of the corresponding letter of request for this financial contribution.

For the Institute of General and

Physical Chemistry

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Dr Stevan Blagojevic

(director of IGPC- Belgrade)

For the Trieste Section of INFN

via Valerio 2, Trieste

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Dr. Valter Bonvicini

(director of NFN – Trieste)