

Experiment Proposal

Experiment number GP2023006

Principal investigator (*) Dr Francesca Visentin, CNR, ITALY
Co-investigator Dr Naida El Habra, National Council of Research, ITALY
Co-investigator Dr Alessia Famengo, CNR, ITALY

Co-investigator
Co-investigator
Co-investigator
Co-investigator
Co-investigator
Co-investigator

Experiment title Chemical characterization of Hydrogen Permeation Barrier coatings

Training MRF **Raman Confocal Microscope**

Access Route Direct Access

Science Areas Materials

Sponsored Grant Yes

Grant Title RICERCA E SVILUPPO DI TECNOLOGIE PER LA FILIERA DELLIDROGENO

Start Date 01/06/2022

Similar Submission? -

Industrial Links -

Non-Technical Abstract ICMATE research activity deals with the development of oxide coatings employing Metal Organic Chemical Vapor Deposition technique. Among various materials, alumina is a promising barrier material because of its low hydrogen permeability, high thermal and chemical stability and hardness. In this study, Al₂O₃/TiO₂ composite multilayer films will be deposited by MOCVD and tested for H₂ permeation after a deep compositional, structural, and morphological characterization. Increasing our knowledge of the Raman technique could allow a better understanding of the deposited multilayer coatings, thanks to the determination of their chemical composition and distribution, the evaluation of amorphous/crystalline forms and

Days requested: 4

Previous GP Number: no

DOI: -

Sponsor: Other

Grant Number: -

Finish Date: 31/12/2025

Publications

ISIS neutron and muon source

IM@IT E-platform: No

Instruments

Access Route

Science Areas

Sponsored Grant

Grant Title

Start Date

Similar Submission?

Industrial Links

Days Requested:

Previous RB Number:

DOI:

Sponsor:

Grant Number:

Finish Date:



Sample record sheet

Principal contact Dr Francesca Visentin, CNR, ITALY
Training Instrument Raman Confocal Microscope
Special requirements: Days Requested: 4

SAMPLE

Material	-	-	-
Formula	-	-	-
Forms			
Volume			
Weight			
Container or substrate	-	-	-
Storage Requirements	-	-	-

SAMPLE ENVIROMENT

Temperature Range	-	-	-
Pressure Range	-	-	-
Magnetic field range	-	-	-
Standard equipment	-	-	-
Special equipment	-	-	-

SAFETY

Prep lab needed	-	-	-
Sample Prep Hazards	-	-	-
Special equip. reqs	-	-	-
Sensitivity to air	-	-	-
Sensitivity to vapour	-	-	-
Experiment Hazards	-	-	-
Equipment Hazards	-	-	-
Biological hazards	-	-	-
Radioactive Hazards	-	-	-
Additional Hazards	-	-	-
Additional Details	-	-	-
Sample will be	-	-	-

