

## 6. ELECTRON VAN DE GRAFF ACCELERATOR FACILITY

Name of the infrastructure	Electron Van de Graff accelerator facility
Location of infrastructure (town, country)	Madrid, Spain
Web site address	<a href="http://www.fusion.ciemat.es/competitive-access-to-facilities/electron-accelerator/">http://www.fusion.ciemat.es/competitive-access-to-facilities/electron-accelerator/</a>
Legal name of organization operating the infrastructure	CIEMAT, Centro de Investigaciones Energéticas Medioambientales y Tecnológicas
Location of organization (town, country)	Madrid, Spain
Key Accelerator Research Area(s)	Van de Graff, material irradiation
General description of the infrastructure	This facility is composed by the following beam characteristics: <ul style="list-style-type: none"> <li>- Irradiation by electron beam or by Bremsstrahlung</li> <li>- Energy: 0,25 to 2,0 MeV and current 10 pA to 150mA</li> <li>- Samples from 3 mm<sup>2</sup> to about 20x20 cm<sup>2</sup></li> <li>- At target area unfocussed beam is ~1 cm diameter</li> <li>- Beam can be focussed up to ~1 mm diameter (for small samples)</li> <li>- Beam can be defocussed up to ~3 cm diameter</li> <li>- Beam can be scanned over 20x20 cm<sup>2</sup> (for large samples)</li> </ul>
Already existing or planned	Existing
Unique features	Electron irradiation at controlled temperature from 25 C up to 900 C within high vacuum or any gas atmosphere
Present situation/future changes/expected lifetime	Fully operative.
Accelerator infrastructure or component test infrastructure	Homemade special sample holders and irradiation chambers. Measurement in situ of Radioluminescence, Radiation Induced Conductivity and Radiation Induced hydrogen permeation.
Shared facility/infrastructure	Infrastructure dedicated to R&D and service
Main user community	60% in home users; 40% external users form R&D institutions
Number of users	10 different users per year.
Open for external users	Yes
If open to external users: Modality of access to the infrastructure (access unit)	Competitive access
Number of access units available for external users	NA
If open to external users: Support offered by the organization operating the infrastructure	Operation of accelerator, Fully equipped experimental stations (detectors, sample holders, vacuum systems, electronics, etc).Expertise on radiation damage also provided to user
Review procedure for requested access	External evaluation committee
How to apply	<a href="http://www.fusion.ciemat.es/competitive-access-to-facilities/electron-accelerator/">Web application via http://www.fusion.ciemat.es/competitive-access-to-facilities/electron-accelerator/</a>
Can the infrastructure be made available?	Yes
If YES, fraction of time that could be made available (%)	Negotiable
Number of FTEs operating the infrastructure	1FTE +3 technicians for infrastructure support
Contact details (name, Institute, email,)	Alejandro Moroño Tecnología de Fusión Division Avenida Complutense, 40 28040, Madrid <a href="mailto:alejandro.morono@ciemat.es">alejandro.morono@ciemat.es</a> Tel.: +34 91 346 6372
Annual operating costs (excl. investment costs) of the infrastructure	1M€
if available: costing model (how is the annual operating cost calculated)	If service is delivered to internal CIEMAT clients, costs are calculated on a basis of an all-in fee package. Special conditions may be applicable for tests performed in the frame of approved official cooperation agreements.
Estimated investment cost (replacement value)	12M€