Name of the organization
National Physical Laboratory

Name of the infrastructure / laboratory
Gas chromatography measurement of hydrogen purity to current international standards using traceable reference materials

Address and country of the infrastructure / laboratory
National Physical Laboratory, Hampton Road, Teddington, Middlesex, TW11 0LW, United Kingdom

Person responsible of the access / Contact person
Andrew Brown

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Main field of activity of the infrastructure / laboratory
- *Measurements of hydrogen purity*

Short description of the infrastructure / laboratory
NPL has a dedicated world-leading gas chromatography laboratory with multiple high performance gas chromatograph systems, with the ability to characterise a wide range of analytes at very low impurity levels. The chromatograph systems available are as follows:
GC – mass spectrometry / GC – thermal conductivity detection / GC – flame ionisation detection / GC – sulphur chemiluminescence detection / GC – pulsed helium discharge ionisation detection.
The work we have been focusing on in this area has been on identifying key impurities at the levels specified in the latest drafts (or published versions of) ISO 14687-2 and 14687-3 on hydrogen purity. Resolution will be improved to sub ppm levels during project.

Main research area(s) of the infrastructure / laboratory
Gas purity analysis

Instruments and tools available for the above mentioned research
Gas chromatography.