

## PEM task :

- PEM installation
- PEM performance check
- New PEM investigation
- PEM management
- PEM monitoring
- Alert system using PEM
- PEM injection
- PEM study
- PEM group management

The detail is written below:

PEM installation : Data acquisition, Cabling, set electrical box, set PEMs, ...

PEM performance check : Sensor noise, ADC noise, stability, ...

New PEM investigation : Tiltmeter, accelerometer in vacuum and cryogenic, Newtonian noise, TOBA, optical and photonic sensor, ...

Alert system using PEM(DetChar) : Earthquake, microseismic, lightening, ...

Alert system using PEM(FCL) : Vacuum, temperature, humidity, ...

### Task

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PEM installation

PEM performance check

New PEM investigation

PEM management : PEM web page

PEM management : PEM medm screen

PEM management : Google spread sheet

PEM management : Weather report

PEM management : New management tool

PEM monitoring : Slow Environmental Monitoring(SEM)

PEM monitoring : Daily summary PEM page

PEM monitoring : Spectrum check

PEM monitoring : Pastavi

PEM monitoring : New monitoring tool  
Alert system using PEM : DetChar  
Alert system using PEM : FCL and safety  
PEM injection : Acoustic injection  
PEM injection : Magnetic injection  
PEM injection : Hammering test  
PEM injection : RF injection  
PEM injection : New injection idea  
PEM injection : Noise budget  
PEM injection : feedforward suppression  
PEM injection : Analysis tool, new analysis  
PEM study : Glitch identification  
PEM study : Line noise investigation  
PEM study : Lock loss study  
PEM study : Data quality report  
PEM study : Offline subtraction  
PEM study : Mechanical vibration noise  
PEM study : Portable PEM  
PEM study : IFO noise evaluation  
PEM study : Auxiliary monitor noise evaluation  
PEM study : Seismic noise and underground motion  
PEM study : Water fluid  
PEM study : Newtonian noise  
PEM study : Acoustic noise including infrasound  
PEM study : Magnetic noises  
PEM study : Lightening and its monitoring system  
PEM study : Schumann noise and its data acquisition  
PEM study : electrical/ground noise  
PEM study : residual gas effect with its monitoring  
PEM study : Radio Frequency noises  
PEM study : High Energy Particle noise  
PEM study : Geophysical noises

PEM study : Metheoretical noise

PEM study : Industrial noise

PEM study : Human activity noise

PEM study : Simulation

PEM study : New analysis

PEM group management : Meeting and presentation management

PEM group management : Communcation with LIGO/Virgo

PEM group management : Communication with underground physicists

PEM group management : Communication with Kamioka-Kogyo

PEM group management : Communication with external specialists