

## **PEM task :**

- PEM installation
- PEM performance check
- New PEM development
- 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 development : 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, ...

<b>Task</b>
PEM installation
PEM performance check
New PEM development
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 : Metheorogical 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 : Commumication with LIGO/Virgo

PEM group management : Communication with underground physicists

PEM group management : Communication with Kamioka-Kogyo

PEM group management : Communication with external specialists