Y.isms: Functional Framework and Requirements for Disaster Monitoring System
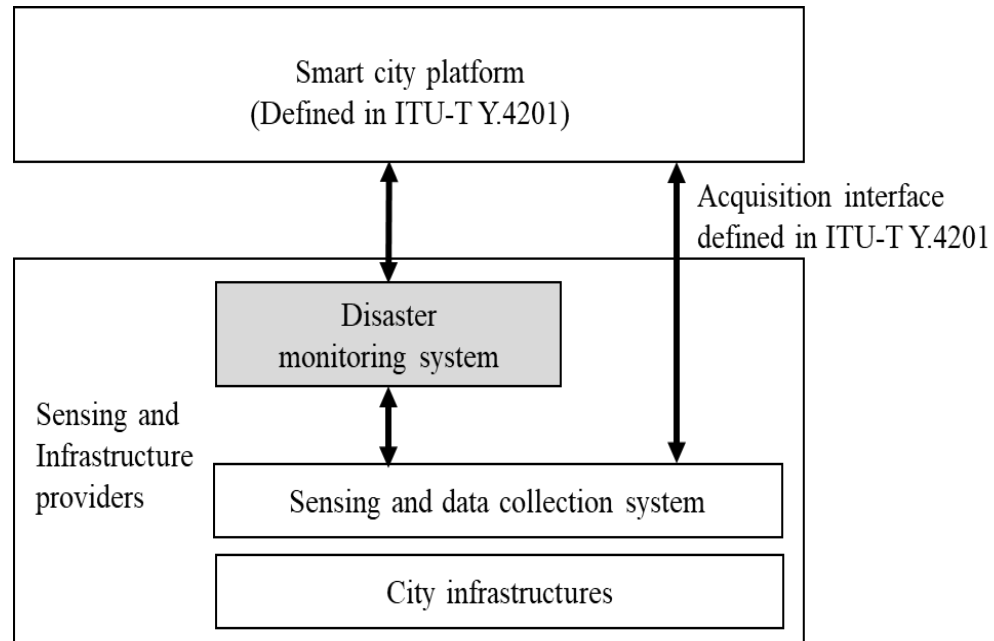
Dr. Wenying Du

Associate Researcher, LIESMARS, Wuhan University
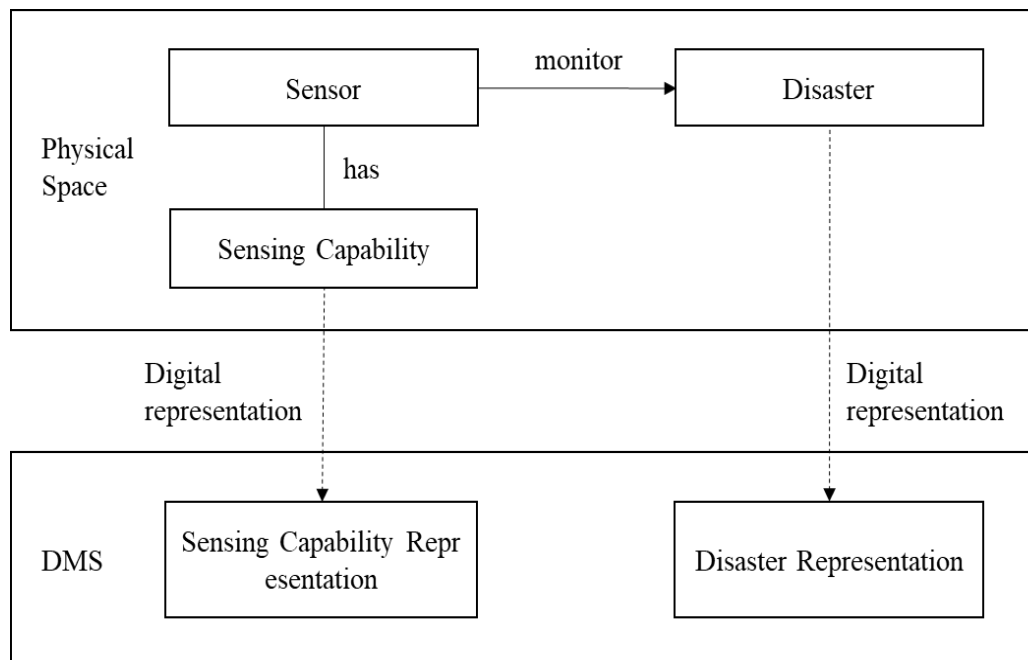**E-mail: duwenying@cug.edu.cn**

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Location of Disaster Monitoring System (DMS)

- How to efficiently discover the suitable sensors?
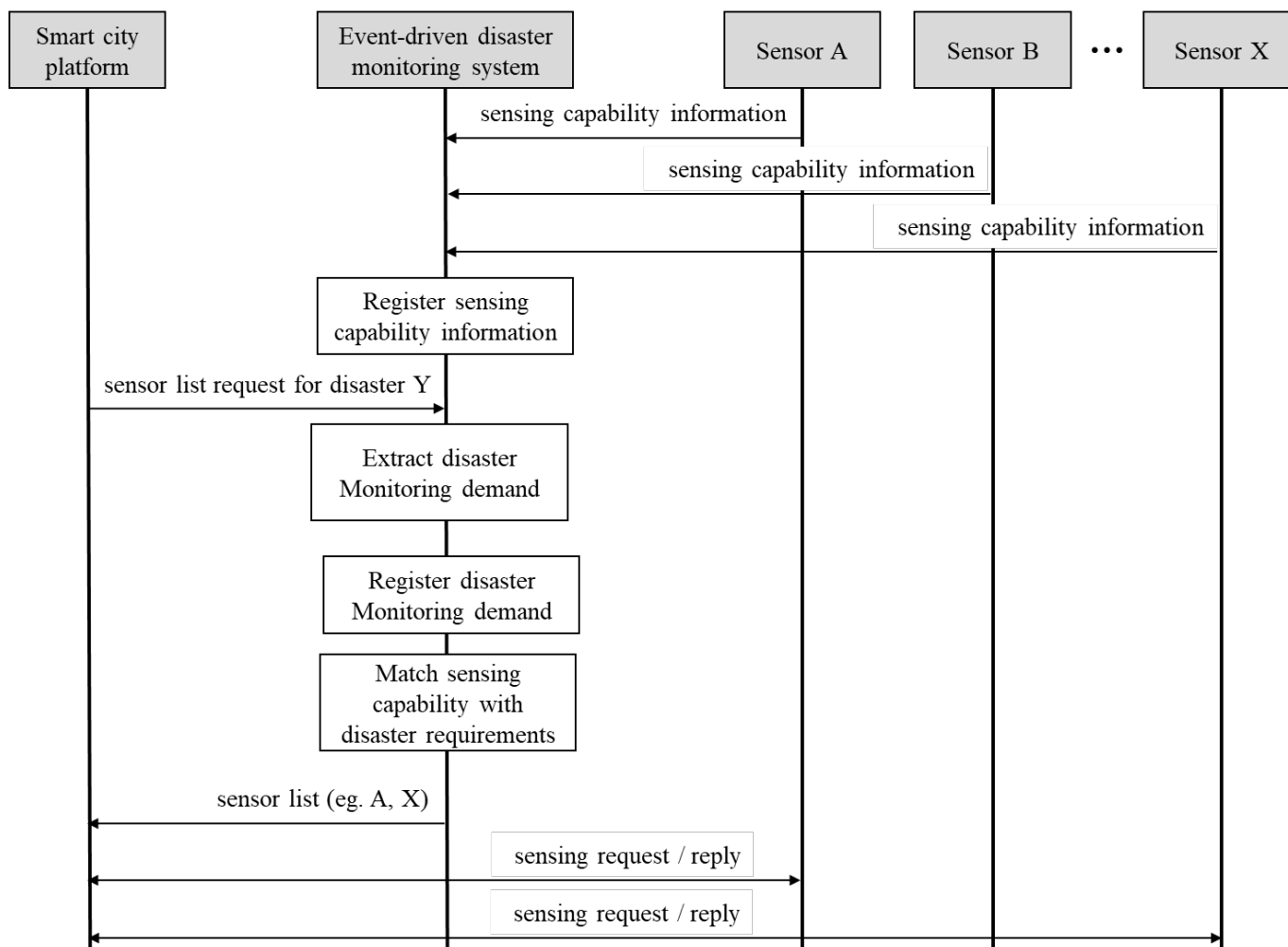
- How to collaborate with multiple sensors ?

Concept Relationships

- Sensor has sensing capability, and monitor disaster

- Sensor capability representation and disaster representation are digital representations
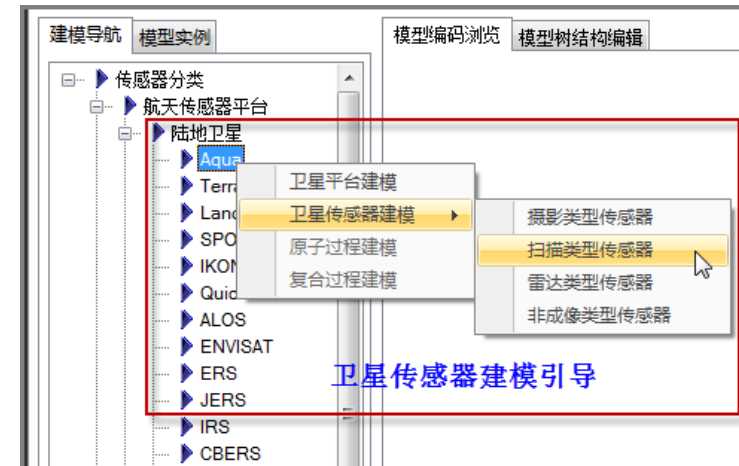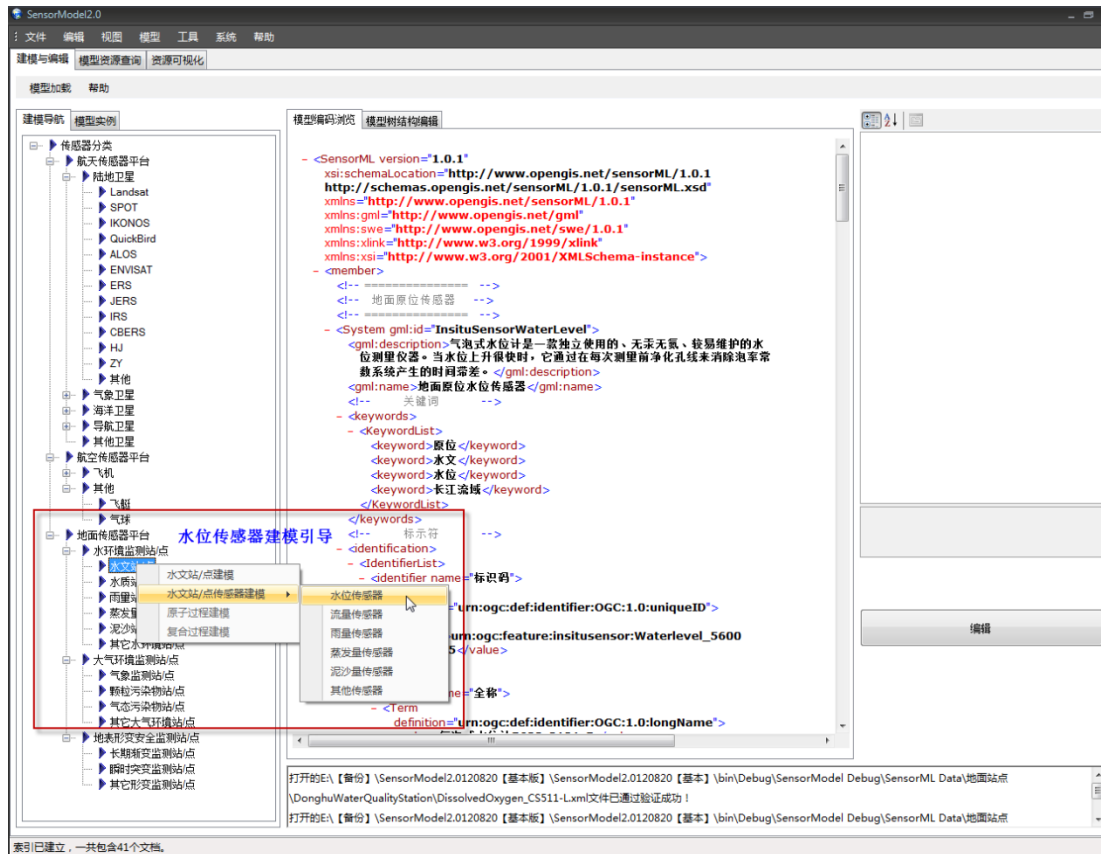
Workflow of DMS

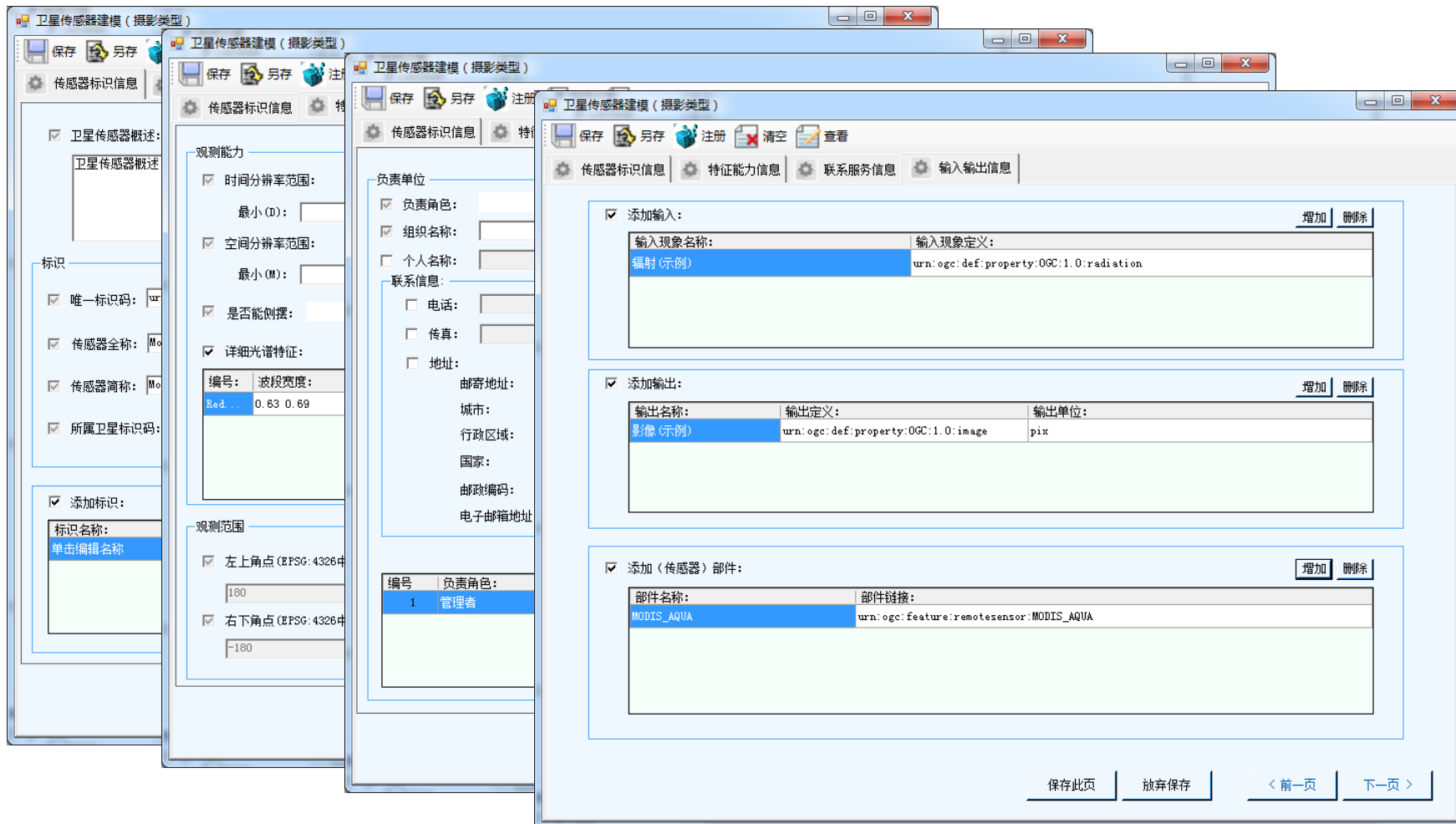Smart city platform — Event-driven disaster monitoring system — Sensor A — Sensor B — ··· — Sensor X

sensing capability information

sensing capability information

sensing capability information

Register sensing capability information

sensor list request for disaster Y

Extract disaster Monitoring demand

Register disaster Monitoring demand

Match sensing capability with disaster requirements

sensor list (eg. A, X)

sensing request / reply

sensing request / reply

Functions

- Disaster representation management

- Sensor capability representation management

- Disaster collaborative sensing

- Security

Disaster Monitoring System

Disaster Representation Management	Sensing Capability Representation Management
Disaster Collaborative Sensing	Security
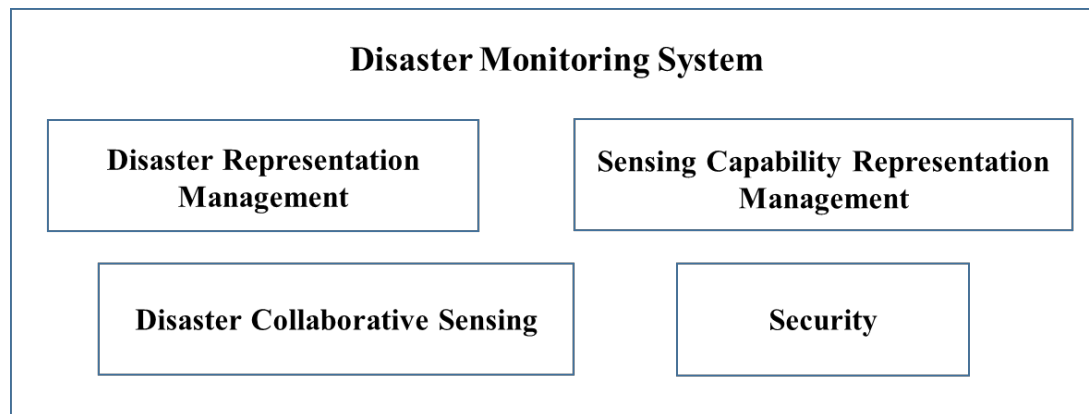
Sensing Capability Representation Organization

Sensing Capability Collection & Representation

Sensing Capability Registration

Lists of Registered Sensors

Sensor Query

Sensor Visualization

Prototype: Sensor Management

Prototype: In-situ Sensor Query

Prototype: Satellite Sensor Query
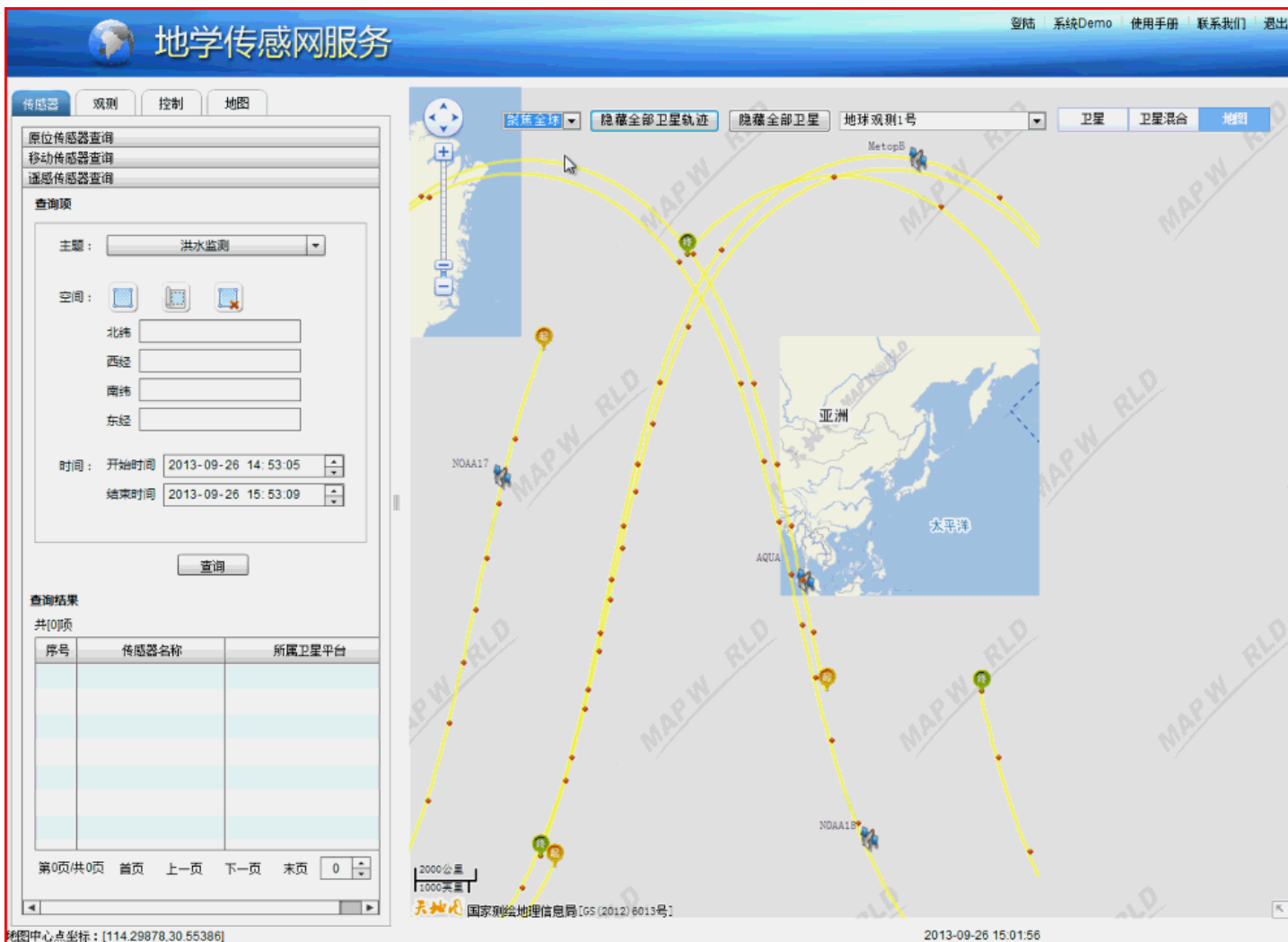
Thank You !

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