ICUS

NAGAI LAB.

[Infrastructure Technology and Management]

International Center for Urban Safety Engineering

http://www.nagai.iis.u-tokyo.ac.jp

Civil
Engineering
Department

Infrastructure Management for Developed Society

Anchorage Performance of RC

As Japanese seismic design code is becoming more strict, lager amount of reinforcement must be placed in Reinforced Concrete (RC) structures at the joint part.



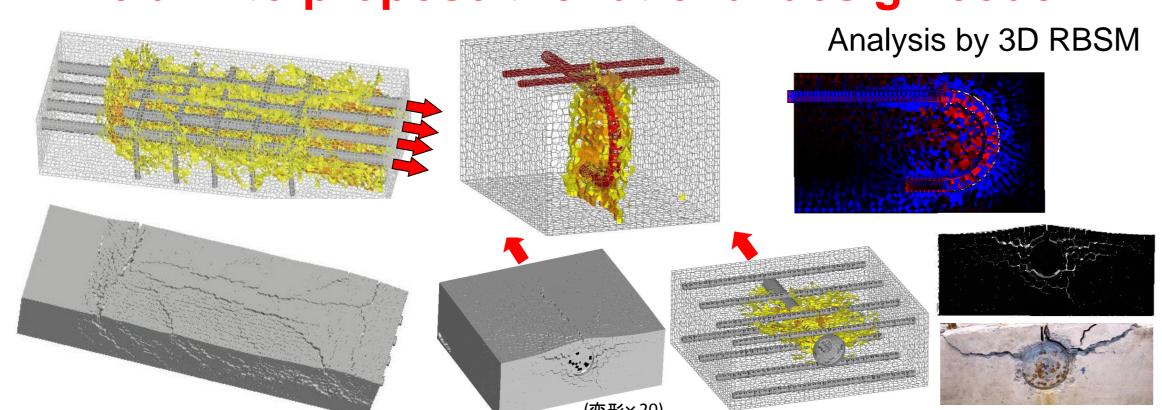
Problems

Increase the fabrication time

Poor concrete compaction may occur.

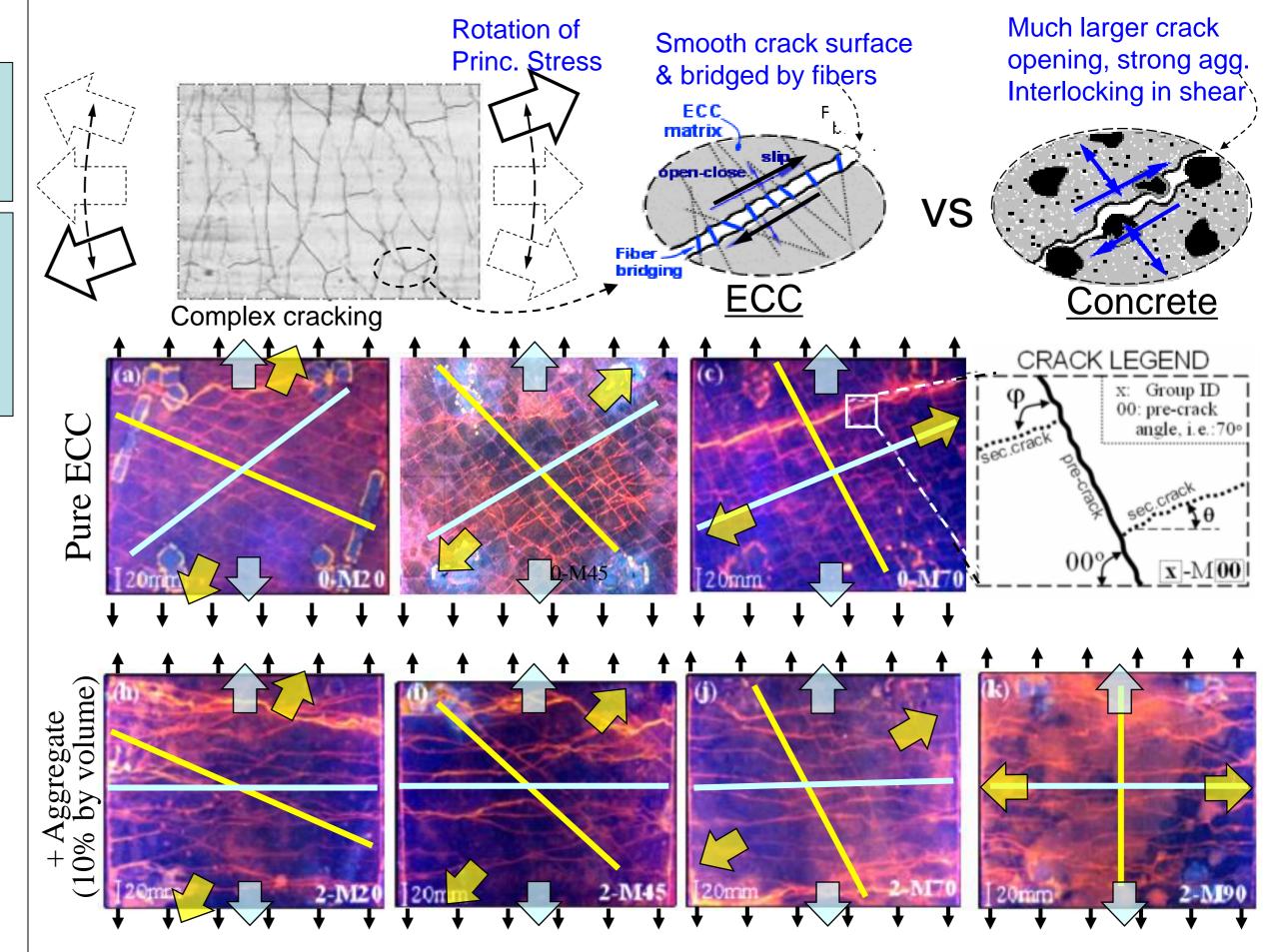
Stress condition in complex reinforcement arrangement

Numerical simulation can clarify
We aim to propose the rational design code



Mechanics of Fiber Reinforced Concrete under Principal Stress Rotation

Robust material against the principal stress rotation is developed by focusing the shear performance.

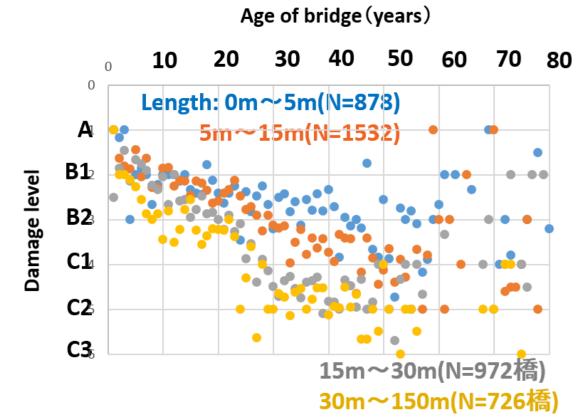


Control of cracking direction of HPFRCC

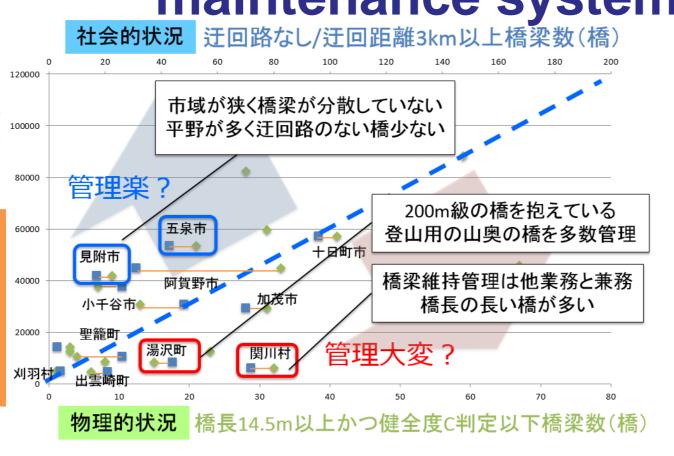
Infrastructure Management for Municipalities in Japan

Japan faces a problem of aging of infrastructure. Especially in municipalities, lack of human resources, technology and budget are pointed out. Rational maintenance system is required.

Analysis of bridge inspection data



Indexation analysis of maintenance system



Calculation of roundabout route



International Expansion of Infrastructure Management

Asset Management (DO)

[PDCA for asset management]

Asset Management (DO)

[PDCA for maintenance]

PLAN

Optimum maintenance scenario

Feedback

PLAN

Optimum maintenance scenario

Feedback

Feedback

Inspection

Countermeasure

Countermeasure

Planning

Planning

Planning

Planning

Planning

Peedback (life elongation, maintenanceability, etc.)

Improvements (maintenance cycle, design method, construction method)

Construction

Construction

Construction

Quality, etc.)

Construction

C

Simple monitoring of damaged bridge (Myanmar)

Seminar and demonstration of inspection (Thailand, Vietnam, Cambodia etc.)

regional situations





