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黄彦瑞

## 2019年水化学部会賞 奨励賞の受賞感想

It is my honor to receive this award from Water Chemistry Division of AESJ.

At first, I would like to thank Professor Akihiko Kimura, Kyoto University, for his training and cultivation. Without him, it would never be possible to make such an achievement.

My research work centers on stress corrosion cracking (SCC) phenomenon in light water reactors. SCC has cast shadows on the integrity of core components for decades. While hydrogen water chemistry has been applied for years, recent experimental results in searching adequate hydrogen content contradicts to conventional understandings. We adopted the knowledge gained from hydrogen environment embrittlement research field to gain robust understanding toward the SCC issue. Results proved that hydrogen-assisted SCC occurred in hydrogenated hot and high temperature water. Also, Ni content and sensitization-induced carbides in matrix largely affected the SCC susceptibility.

Currently I am engaged in Rokkasho Fusion Energy Research Centre, National Institutes for Quantum and Radiological Science and Technology. Fusion reactor plays a critical role in achieving zero carbon emission society. I will dedicate myself to develop and design a robust fusion reactor so as to fulfill this goal. Last but not least, I would like to thank all the staff in water chemistry division.