



# 第208回触媒化学研究センター談話会

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**演題： G.K. Boreskov and J. Horiuti: How to relate the reaction rates in the forward and backward directions**

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**日時： 2006年10月26日(木) 15:15-16:30**  
**会場： 北海道大学創成科学研究棟4階 セミナー室 04-215号室**

**要旨：** In the middle of the previous century, G.K. Boreskov and independently J. Horiuti and S. Enomoto showed that for reversible reactions, running via a one-route mechanism with a rate-limiting step, there exist general relationships between the reaction rates in the forward and backward directions and also between the corresponding apparent activation energies and reaction heat. Their treatments are formally applicable to gas- and liquid-phase reactions and also to heterogeneous catalytic reactions (HCR) occurring in an ideal overlayer adsorbed on a uniform surface. In reality, HCR often run on heterogeneous surfaces and the HCR kinetics are complicated by adsorbate-adsorbate lateral interactions. In such situations, the Boreskov-Horiuti-Enomoto rules were expected to be applicable as well. I will explicitly demonstrate that this is the case.

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1. Introduction
2. Elementary reversible reactions
3. Reversible reactions with ideal kinetics
4. Surface heterogeneity and lateral interactions
5. Brief biography of G.K. Boreskov
6. Brief biography of J. Horiuti
7. Relations between G.K. Boreskov and J. Horiuti
8. Conclusion

《連絡先》 北大触媒化学研究センター 表面反応ダイナミクス分野

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