ReactorSTM : imaging catalysts under realistic conditions

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Citation

Herbschleb, C. T. (2011, May 10). *ReactorSTM : imaging catalysts under realistic conditions*. *Casimir PhD Series*. Retrieved from https://hdl.handle.net/1887/17620

List of publications

1. *Catalytic activity of the Rh surface oxide: CO oxidation over Rh(111) under realistic conditions*; J. Gustafson, R. Westerström, O. Balmes, A. Resta, R. van Rijn, X. Torrelles, **C. T. Herbschleb**, J. W. M. Frenken, and E. Lundgren; J. Phys. Chem. C. **114**, 4580 (2010).

2. *Reply to "comment on 'Catalytic activity of the Rh Surface Oxide: CO Oxidation over Rh(111) under realistic conditions' "*; J. Gustafson, R. Westerström, O. Balmes, A. Resta, R. van Rijn, X. Torrelles, **C. T. Herbschleb**, J. W. M. Frenken, and E. Lundgren; J. Phys. Chem. C **114**, 22372 (2010).

3. *High-pressure STM study of NO reduction by CO on Pt(100)*; **C.T. Herbschleb**, S.C. Bobaru, and J.W.M. Frenken; Catalysis Today **154**, 61 (2010).

4. *High-Pressure STM for studying catalysis under industrial conditions*; **C.T. Herbschleb**, P.C. van der Tuijn, Q. Liu, G. Verdoes, M.E. Cañas-Ventura, L. Crama, D. Stoltz, J.W. Bakker, V. Navarro-Paredes, I. Taminiau, G.J.C. van Baarle, A. Ofitserov, M. Bergman, and J.W.M. Frenken; in preparation for submission to Rev. Sci. Instr.

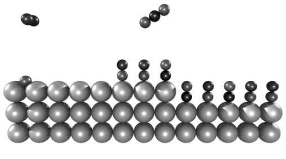
5. *ReactorAFM; Ultrahigh vacuum/high-pressure flow reactor for atomic force microscopy studies close to conditions for industrial catalysis*; M. E. Cañas-Ventura, S. Roobol, W. Onderwaater, P.C. van der Tuijn, **C.T. Herbschleb**, Q. Liu, G. Verdoes, R. Koehler, D. Stoltz, J.W. Bakker, G.J.C. van Baarle, A. Ofitserov, V. Navarro-Paredes, I. Taminiau, M. Bergman, and J. W. M. Frenken; in preparation for submission to Rev. Sci. Instr.

6. *High-pressure STM study of hydro-desulphurization of thiophene on* MoS_2*/Au(111)*; **C.T. Herbschleb**, Q. Liu, J.W. Bakker, B.J. Nelissen, S. Helveg, and J.W.M. Frenken; in preparation.

7. *Oxide versus Metal – Direct STM imaging of the surface oxide on Pt(110) during CO oxidation at atmospheric pressures*; **C.T. Herbschleb**, Q. Liu, V. Navarro-Paredes, J.W. Bakker, M.E. Cañas-Ventura, D. Stoltz, and J.W.M. Frenken; in preparation.

Curriculum Vitae

Cornelis Thaddeus Herbschleb is geboren op 1 november 1983 te Leeuwarden. Na het behalen van zijn gymnasium-diploma in juni 2001 begon hij zijn studie natuurkunde aan de Universiteit van Leiden, waar hij in juni 2006 zijn doctoraal diploma behaalde. Zijn eerste onderzoeksstage bestond aan de ene kant uit het construeren, plaatsen en beheren van kosmische stralingsdetecoren in Leiden en omgeving (alsmede in Khartoum) onder begeleiding van prof. dr. Pierre van Baal. Dit werk vond plaats in nauw contact met het Nederlands Instituut voor Kern en Hoge Energie Fysica. Aan de andere kant heeft hij tijdens deze onderzoeksstage een dergelijke stralingsdetector geïntegreerd met MiniGRAIL (Mini-Gravitational Radiation Antenna In Leiden) in de groep van prof. dr. Giorgio Frossati. De tweede onderzoeksstage vond plaats in de Interface Physics groep onder begeleiding van prof. dr. Joost Frenken en had betrekking op het onderzoek van de werking van katalysatoren met behulp van een hoge-druk STM. Hij vervolgde het werk aan deze opstelling tijdens zijn promotie, in dienst van de Interface Physics groep, verbonden aan de Universiteit Leiden. Hij heeft tijdens zijn promotie ook gewerkt aan de ontwikkeling van een nieuwe, sterk verbeterde versie van de ReactorSTM, waarin resolutie, robuustheid, drukbereik en gebruikersgemak een grote rol hebben gespeeld. Alsmede heeft hij de eerste succesvolle metingen met deze apparatuur verricht. Tijdens zijn promotie heeft hij deel uitgemaakt van NanoNed (www.nanoned.nl) en het SmartMix programma NIMIC (www.realnano.nl). Daarnaast is hij project coördinator geweest van EuroPhysicsFun, een Europees platform voor natuurkundeshows in Europa dat ondermeer jaarlijks het congres “Show Physics” organiseert.



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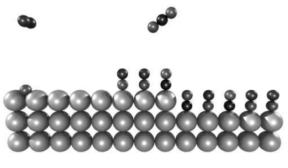

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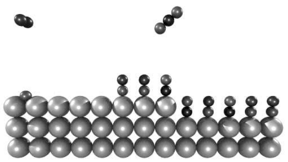

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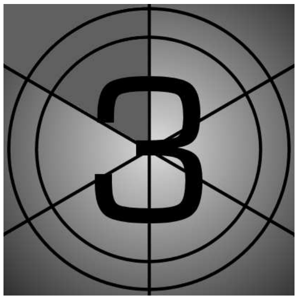

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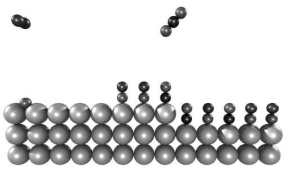

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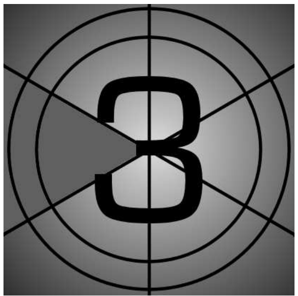

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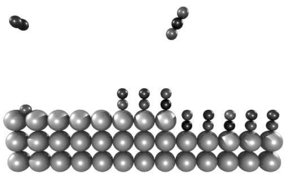

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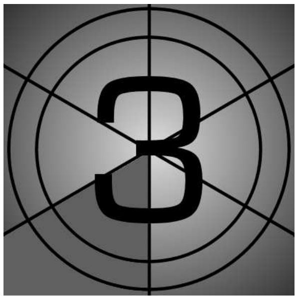

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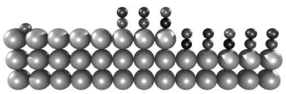

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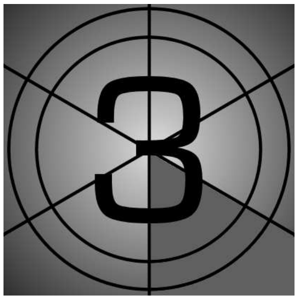

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