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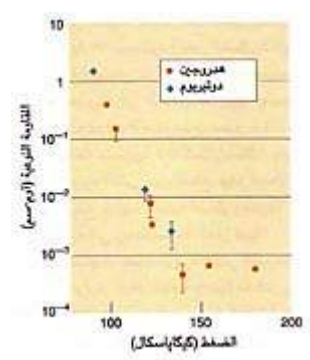
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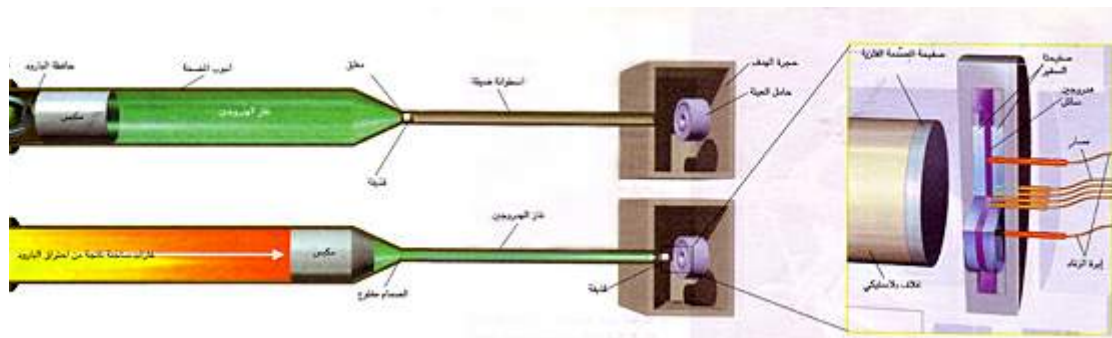
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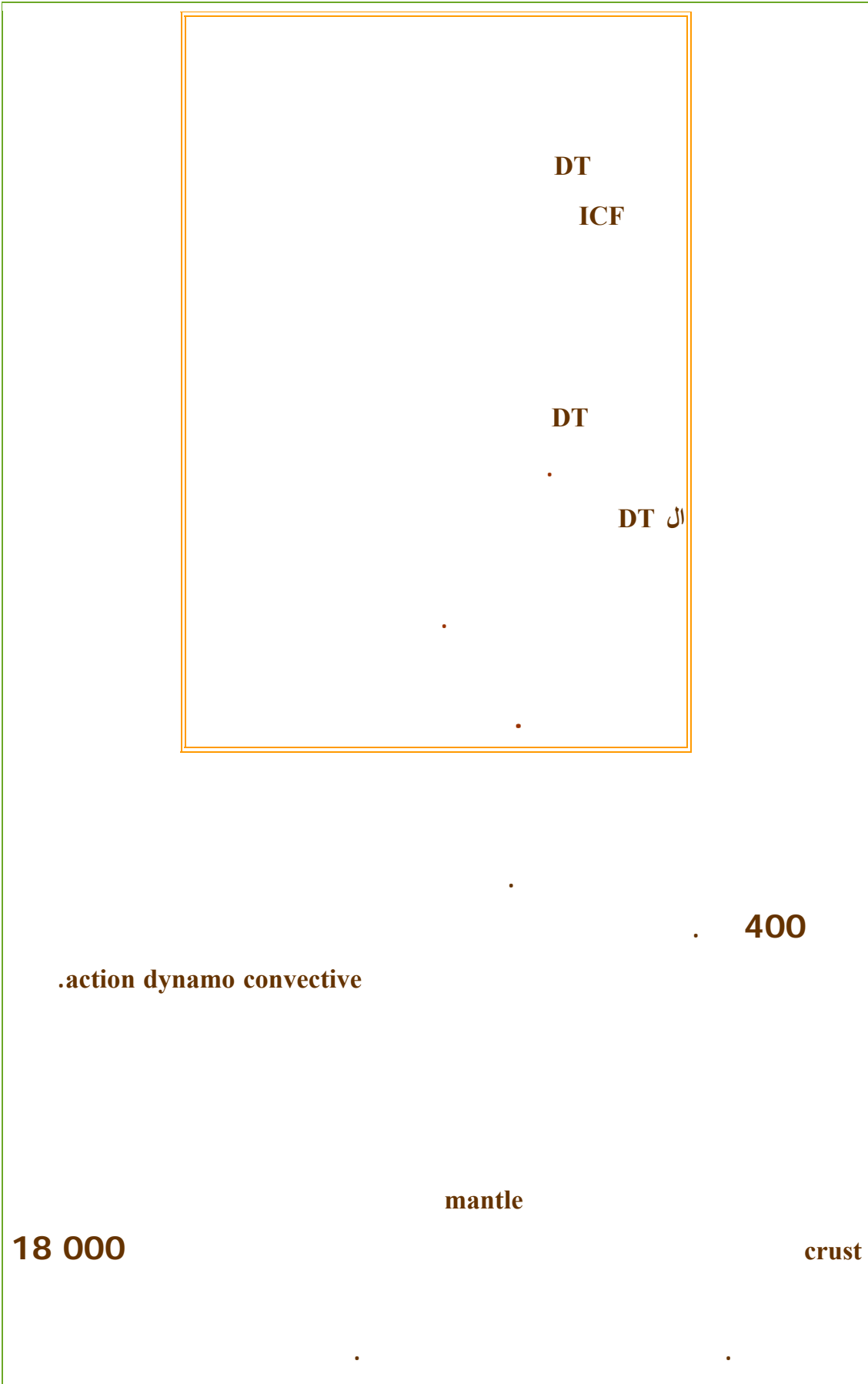
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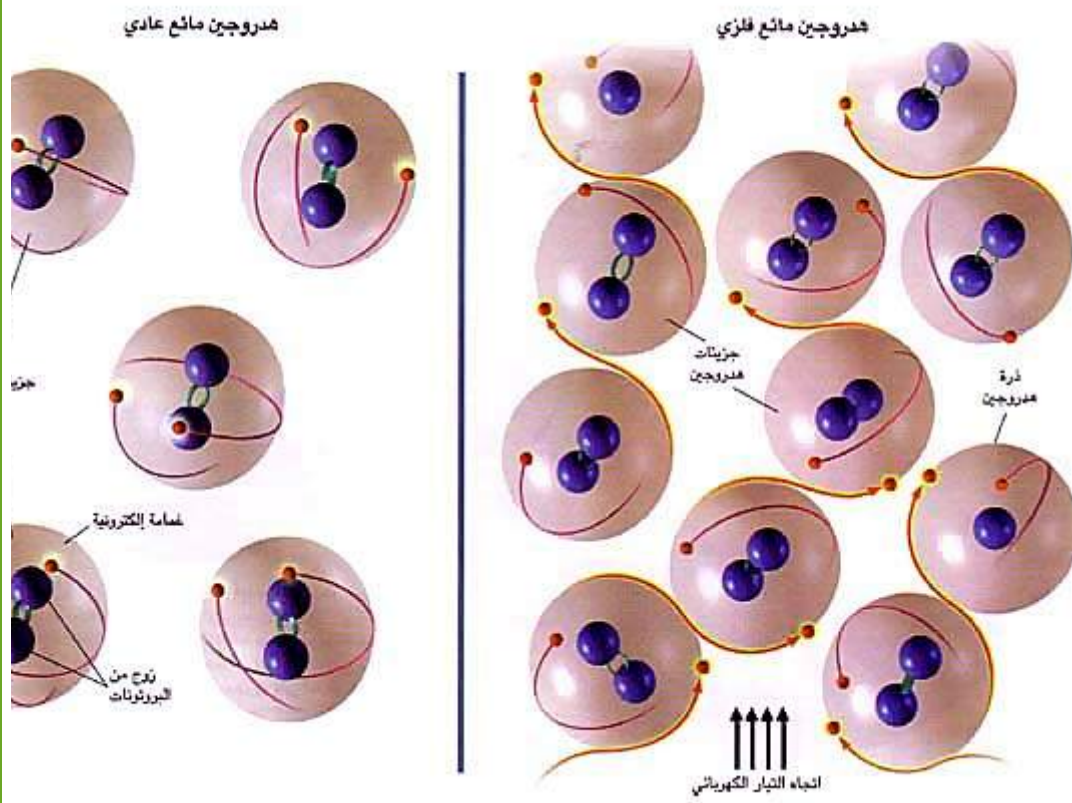
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William J. Nellis

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مراجع للاستزادة

DENSE HYDROGEN: THE RELUCTANT ALKALI. N. Ashcroft in *Physics World*, Vol. 8, No. 7, pages 43-48; July 1995.

METALLIZATION OF FLUID MOLECULAR HYDROGEN AT 140 GPA (1.4 MBAR). S. T. Weir, A. C. Mitchell and W. J. Nellis in *Physical Review Letters*, Vol. 76, No. 11, pages 1860-1863; March 11, 1996.

SOLID HYDROGEN AT 342 GPA: NO EVIDENCE FOR AN ALKALI METAL. Chandrabhas Narayana, Huan Lou, Jon Orloff and Arthur L. Ruoff in *Nature*, Vol. 393, pages 46-49; May 7, 1998.

More information on metallic hydrogen is available at www-phys.llnl.gov/H_Div/GG/Nellis.html on the World Wide Web.

Scientific American, May 2000

Hydrogen Making Metallic (*)