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Reference examples

- Journal
H. Kaddoussi, Y. Gagou, A. Lahmar, J. Belhadi, B. Allouche, J.-L. Dellis, M. Courty, H. Khemakhem, and M. El Marssi, *Solid State Commun.* **201**, 64 (2015).
- Monograph
R. J. Hunter, *Zeta Potential in Colloid Science* (Academic, New York, 1981), p. 120.
- Proceedings
H. R. Qin, in *The subgroups of a finite order in $K(Q)$: Algebraic K-theory and Its Application*, edited by H. Bass, A. O. Kuku, and C. Pedrini (World Scientific, Singapore, 1999), pp. 600-607.

R. K. Ahrenkiel, in *Gallium Arsenide and Related Compounds 1993: Proceedings of the 20th International Symposium on Gallium Arsenide and Related Compounds*, Freiburg, Germany, 29 August–2 September 1993, edited by H. S. Rupprecht, and G. Weimann (Institute of Physics, London, 1994), pp. 685-690.

- Dissertation

G. X. Liu, *Classification of Finite Dimensional Basic Hopf Algebras and Related Topics*, Dissertation for the Doctoral Degree (Hangzhou University, Hangzhou, 2005), pp. 24-28.

- Technical report

V. Chang, *The Past, Present and Future of the Linux Operating Systems*, Technical Report (University of Southampton, 2006).

- Patent

W. P. Zhang, *Experiment apparatus of diffraction imaging*, China patent, 02290557.X (2003-12-03).

- User manual

D. L. Wang, J. Zhu, and Z. K. Li, *User Manual for QTKMapper Version 1.6*, 1999.

- Software

Hemodynamics III: The ups and downs of hemodynamics, Version 2.2 (Computerized Educational Systems, Orlando (FL), 1993).

Multiple citations are acceptable:

D.-Y. Choi, S. Madden, A. Rode, R. Wang, and B. Luther-Davies, *J. Non-Cryst. Solids* **354**, 3179 (2008); *J. Appl. Phys.* **104**, 113305 (2008).

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J. Scaroni, and T. Mckee, *Solid State Technol.* **40**, 245 (1997); M. G. Lawrence, *Bull. Am. Meteorol. Soc.* **86**, 225 (2005).

(two completely different references)

or

Y. de Carlan, A. Alamo, M. H. Mathon, G. Geoffroy, and A. Castaing, *J. Nucl. Mater.* **283-287**, 762 (2000); M. H. Mathon, Y. de Carlan, G. Geoffroy, X. Averty, A. Alamo, and C. H. de Novion, *ibid.* **312**, 236 (2003).

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