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References:

- [1] Anderson, J. D., Null, G. W., Biller, E. D., Wong, S. K., Hubbard, W. B., and MacFarlane, J. J.: 1980, *Science* 207, 449. · [doi:10.1126/science.207.4429.449](https://doi.org/10.1126/science.207.4429.449)
- [2] Cohen, M.: 1981, *Nature* 291, 611. · [doi:10.1038/291611a0](https://doi.org/10.1038/291611a0)
- [3] Consolmagno, G. J. and Lewis, J. S.: 1978, *Icarus* 34, 280. · [doi:10.1016/0019-1035\(78\)90168-9](https://doi.org/10.1016/0019-1035(78)90168-9)
- [4] Cox, J. P. and Giuli, R. T.: 1968, *Principles of Stellar Structure*, Vol. 1. Gordon and Breach, New York.
- [5] Davies, M. E. and Katayama, F. Y.: 1983, *Icarus* 53, 332. · [doi:10.1016/0019-1035\(83\)90153-7](https://doi.org/10.1016/0019-1035(83)90153-7)
- [6] Delsemme, A. H. and Wenger, A.: 1970, *Planetary Space Sci.* 18, 709. · [doi:10.1016/0032-0633\(70\)90052-8](https://doi.org/10.1016/0032-0633(70)90052-8)
- [7] Fouché, M.: 1884, *Compt. Rend. Acad. Sci.* 99, 903.
- [8] Gautier, D., Conrath, B. J., Flasar, F. M., Hanel, R. A., and Kunde, V. G.: 1981, *J. Geophys. Res.* 86, 8713. · [doi:10.1029/JA086iA10p08713](https://doi.org/10.1029/JA086iA10p08713)
- [9] Grossman, A. S., Pollack, J. B., Reynolds, R. T., Summers, A. L., and Graboske, H. C.: 1980, *Icarus* 42, 358. · [doi:10.1016/0019-1035\(80\)90102-5](https://doi.org/10.1016/0019-1035(80)90102-5)
- [10] Haudenschild, C.: 1971, *JPL Space Programs Summary* 37-64, Vol. III, pp. 4-9. Jet Propulsion Laboratory, Pasadena.
- [11] Herbig, G. H.: 1962, *Advances in Astron. Astrophys.* 1, 47.
- [12] Hourigan, K.: 1977, *Proc. Astron. Soc. Australia* 3, 169.
- [13] Hourigan, K.: 1981a, *Proc. Astron. Soc. Australia* 4, 226.
- [14] Hourigan, K.: 1981b, Ph.D. Thesis, Monash University (Clayton, Victoria).
- [15] Hourigan, K. and Prentice, A. J. R.: 1979, *Proc. Astron. Soc. Australia* 3, 389.
- [16] Hoyle, F.: 1960, *Quart. J. Roy. Astron. Soc.* 1, 28.
- [17] Hubbard, W. B. and MacFarlane, J. J.: 1980, *J. Geophys. Res.* 85, 225. · [doi:10.1029/JB085iB01p00225](https://doi.org/10.1029/JB085iB01p00225)
- [18] Jeans, J. H.: 1928, *Astronomy and Cosmogony*, Cambridge University Press, Cambridge. · [Zbl 53.0911.06](https://zbmath.org/journals/Zbl/53.0911.06)
- [19] Kozai, Y.: 1976, *Publ. Astron. Soc. Japan* 28, 675.
- [20] Lambert, D. L.: 1978, *Monthly Notices Roy. Astron. Soc.* 182, 249.
- [21] Lambert, D. L. and Luck, R. E.: 1978, *Monthly Notices Roy. Astron. Soc.* 183, 79.
- [22] Laplace, P. S. de: 1796, *Exposition du Système du Monde*, Courcier, Paris.
- [23] Lewis, J. S.: 1972, *Icarus* 16, 241. · [doi:10.1016/0019-1035\(72\)90071-1](https://doi.org/10.1016/0019-1035(72)90071-1)
- [24] Lewis, J. S.: 1974, *Science* 186, 440. · [doi:10.1126/science.186.4162.440](https://doi.org/10.1126/science.186.4162.440)
- [25] Lupo, M. J.: 1982, *Icarus* 52, 40. · [doi:10.1016/0019-1035\(82\)90167-1](https://doi.org/10.1016/0019-1035(82)90167-1)
- [26] Lupo, M. J. and Lewis, J. S.: 1979, *Icarus* 40, 157. · [doi:10.1016/0019-1035\(79\)90061-7](https://doi.org/10.1016/0019-1035(79)90061-7)
- [27] Lupo, M. J. and Lewis, J. S.: 1980, *Icarus* 42, 29. · [doi:10.1016/0019-1035\(80\)90238-9](https://doi.org/10.1016/0019-1035(80)90238-9)
- [28] Miller, S. L.: 1961, *Proc. Nat. Acad. Science* 47, 1798. · [doi:10.1073/pnas.47.11.1798](https://doi.org/10.1073/pnas.47.11.1798)
- [29] Pollack, J. B., Grossman, A. S., Moore, R., and Graboske, H. C.: 1976, *Icarus* 29, 35. · [doi:10.1016/0019-1035\(76\)90100-7](https://doi.org/10.1016/0019-1035(76)90100-7)
- [30] Pollack, J. B., Burns, J. A., and Tauber, M. E.: 1979, *Icarus* 37, 587. · [doi:10.1016/0019-1035\(79\)90016-2](https://doi.org/10.1016/0019-1035(79)90016-2)
- [31] Prentice, A. J. R.: 1973, *Astron. Astrophys.* 27, 237.
- [32] Prentice, A. J. R.: 1974, in *In the Beginning ...*, J. P. Wild (ed.), Australian Academy of Science, Canberra, pp. 15-47.

- [33] Prentice, A. J. R.: 1976, *Astron. Astrophys.* 50, 59.
- [34] Prentice, A. J. R.: 1978a, in *The Origin of the Solar System* S. F. Dermott (ed.), John Wiley & Sons, London, pp. 111-162.
- [35] Prentice, A. J. R.: 1978b, *The Moon and the Planets* 19, 341. · [Zbl 0382.62043](#) · [doi:10.1007/BF00898829](#)
- [36] Prentice, A. J. R.: 1980a, JPL Publication 80-80, Jet Propulsion Laboratory, Pasadena.
- [37] Prentice, A. J. R.: 1980b, *Phys. Lett.* 80A, 205. · [doi:10.1016/0375-9601\(80\)90225-X](#)
- [38] Prentice, A. J. R.: 1980c, *Australian J. Phys.* 33, 623.
- [39] Prentice, A. J. R.: 1981a, JPL Publication 81-79, Jet Propulsion Laboratory, Pasadena.
- [40] Prentice, A. J. R.: 1981b, *Proc. Astron. Soc. Australia* 4, 164.
- [41] Prentice, A. J. R.: 1981c, *Bull. Amer. Astron. Soc.* 13, 743.
- [42] Prentice, A. J. R.: 1983, *Australian Physicist* 20, 37.
- [43] Prentice, A. J. R. and ter Haar, D.: 1979a, *The Moon and the Planets* 21, 43. · [doi:10.1007/BF00897054](#)
- [44] Prentice, A. J. R. and ter Haar, D.: 1979b, *Nature* 280, 300. · [doi:10.1038/280300a0](#)
- [45] Ransford, G. A., Finnerty, A. A., and Collerson, K. D.: 1981, *Nature* 289, 21. · [doi:10.1038/289021a0](#)
- [46] Ross, J. E. and Aller, L. H.: 1976, *Science* 191, 1223. · [doi:10.1126/science.191.4233.1223](#)
- [47] Slattery, W.: 1977, *Icarus* 32, 58. · [doi:10.1016/0019-1035\(77\)90049-5](#)
- [48] Smith, B. A. et al.: 1981, *Science* 212, 169.
- [49] Smith, B. A. et al.: 1982, *Science* 215, 504. · [doi:10.1126/science.215.4532.504](#)
- [50] Stewart, J. W.: 1960, *J. Chem. Phys.* 33, 128. · [doi:10.1063/1.1731067](#)
- [51] Stone, E. C. and Miner, E. D.: 1982, *Science* 215, 499. · [doi:10.1126/science.215.4532.499](#)
- [52] ter Haar, D.: 1967, *Ann. Rev. Astron. Astrophys.* 5, 267. · [doi:10.1146/annurev.aa.05.090167.001411](#)
- [53] Tyler, G. L., Eshleman, V. R., Anderson, J. D., Levy, G. S., Lindal, G. F., Wood, G. E., and Croft, T. A.: 1981, *Science* 212, 201. · [doi:10.1126/science.212.4491.201](#)
- [54] Tyler, G. L., Eshleman, V. R., Anderson, J. D., Levy, G. S., Lindal, G. F., Wood, G. E., and Croft, T. A.: 1982, *Science* 215, 553. · [doi:10.1126/science.215.4532.553](#)
- [55] Ward, W. R.: 1981, *Icarus* 46, 97. · [doi:10.1016/0019-1035\(81\)90079-8](#)
- [56] Williams, I. P. and Crampin, D. J.: 1971, *Monthly Notices Roy. Astron. Soc.* 152, 261.

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