

21-cm ABSORPTION IN BL LAC

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Abstract. Observations with the Owens Valley Radio Observatory interferometer show that BL Lac has a 21-cm hydrogen absorption line, produced by a local intervening cloud. The line is centered on zero velocity (LSR), has a width of about 5 km s^{-1} , and shows an optical depth of 0.5. BL Lac is at galactic latitude $b = -10^\circ$. No firm distance limit is possible, but such clouds are, typically, 100 pc apart. This observation is consistent with BL Lac being an extragalactic object. Other observations leading to a similar conclusion are of rotation measure (MacLeod and Andrew, 1968) and of reddening (Bertaud *et al.*, 1969).

References

- Bertaud, Ch., Dumortier, B., Véron, P., Wlérick, G., Adam, G., Bigay, J., and Garnier, R.: 1969, *Astron. Astrophys.* **3**, 436.
MacLeod, J. M. and Andrew, B. H.: 1968, *Astrophys. Letters* **1**, 243.