



## Radial Distribution of Absorption in a Cesium Heat Pipe with Axial Laser Heating

By Charles D. Fox

Biblioscholar Okt 2012, 2012. Taschenbuch. Book Condition: Neu. 246x189x4 mm. This item is printed on demand - Print on Demand Neuware - Diode Pumped Alkali Lasers (DPAL) have been scaled to greater than 100 W and exhibit slope efficiencies exceeding 80 percent, offering application for tactical laser weapons. The hybrid DPAL system combines efficient diode pumping with the good beam quality and thermal characteristics of gas lasers. Thermal effects on alkali concentration have been observed to degrade performance, while low speed flowing systems are in development. However, spatial gradients in temperature and concentrations have not previously been observed. In the present work, a 0.8 W/cm<sup>2</sup> pump laser at the D1 frequency heats the medium in a T=50-100C Cs heat pipe with 5 Torr nitrogen used for quenching. A 31 μW/cm<sup>2</sup> diode laser probes the spectral absorbance of the Cs cell on the D2 transition with radial spatial resolution. 70 pp. Englisch.



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