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Excitation energy dependence of the exciton inner ring YULIYA KUZNETSOVA, JASON LEONARD, LEONID BUTOV, University of California at San Diego, JOE WILKES, ALEX IVANOV, Cardiff University, ARTHUR GOSSARD, University of California at Santa Barbara — We report on the excitation energy dependence of the inner ring in the emission pattern of indirect excitons. The contrast of the inner ring is found to increase with excitation energy until it reaches the direct exciton plus LO phonon energy and saturate at higher excitation energies. The data show that excitation by low-energy laser light tuned to the direct exciton resonance can effectively suppress the laser-induced heating of the exciton gas. The observed dependence is explained in terms of exciton transport and cooling.

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