

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Lasing in Er doped GaN multiple-quantum well structures VINH HO, NGUYEN VINH, Virginia Tech — Erbium doped GaN have attracted much attention due to their capability to provide highly thermal stable optical emission in technologically important wavelengths. There is a continued need to exploring effective mechanisms to further improve the quantum efficiency of the 1.54 μm emission in this material. We report photoluminescence and direct evidence of two mechanisms responsible for the excitation of Er^{3+} ions in GaN/AlN multiple quantum wells (MQWs:Er) grown by metal organic chemical vapor deposition. The emission intensity from our MQWs:Er increases significantly, compared with those from a single layer. We will discuss the influence of the quantum well and barrier width on the photoluminescence emission at 1.54 μm . These results demonstrate the lasing in MQWs:Er multiple-quantum well structures at 1.54 μm .

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Date submitted: 12 Nov 2016

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