## Influence of high magnetic field on electric-dipole emission spectra of Eu<sup>3+</sup> in different single crystals

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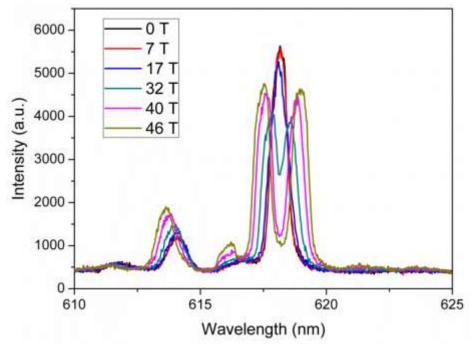


Fig 1 PL spectra of  ${}^{5}D_{0}$ - ${}^{7}F_{2}$  band of GdVO<sub>4</sub>:Eu<sup>3+</sup> excited by 396nm laser under different magnetic field at 4.2K.

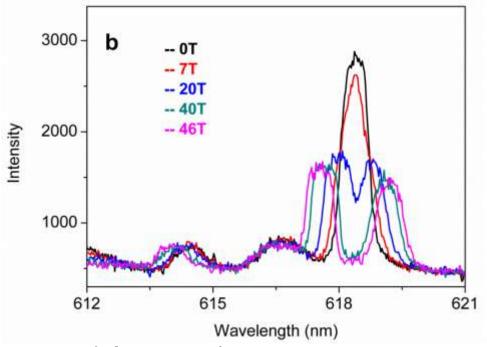
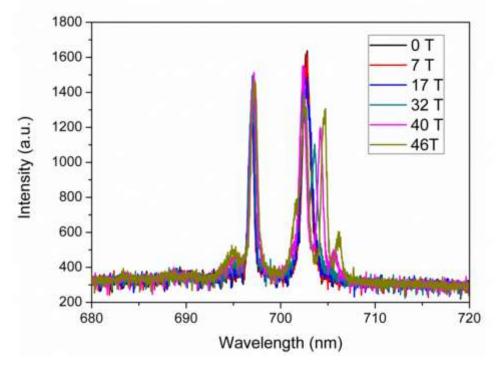


Fig 2 PL spectra of  ${}^{5}D_{0}$ - ${}^{7}F_{2}$  band of YVO<sub>4</sub>:Eu<sup>3+</sup> excited by 396nm laser under different magnetic field at 4.2K.



**Fig 3** PL spectra of  ${}^{5}D_{0}$ - ${}^{7}F_{4}$  band of GdVO<sub>4</sub>:Eu<sup>3+</sup> excited by 396nm laser under different magnetic field at 4.2K.

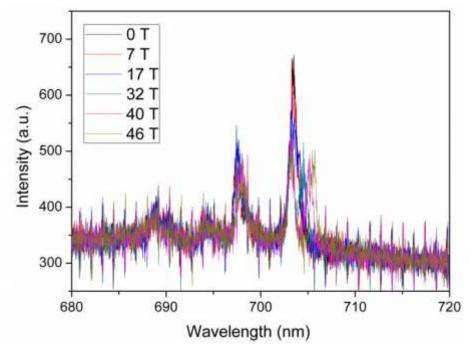


Fig 4 PL spectra of  ${}^{5}D_{0}$ - ${}^{7}F_{4}$  band of YVO<sub>4</sub>:Eu<sup>3+</sup> excited by 396nm laser under different magnetic field at 4.2K.

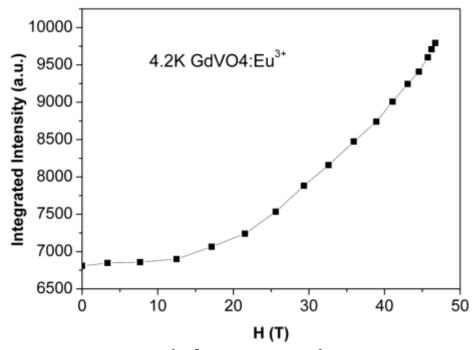


Fig 5 Integrated intensity of  ${}^{5}D_{0}-{}^{7}F_{2}$  PL of GdVO<sub>4</sub>:Eu<sup>3+</sup> single crystal versus magnetic field at 4.2K

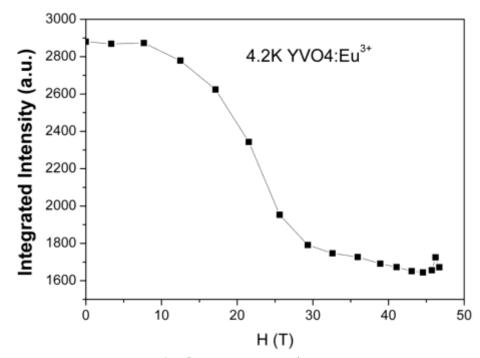
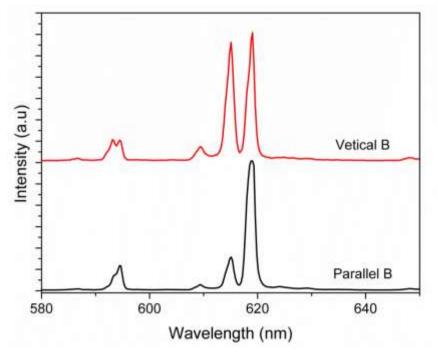
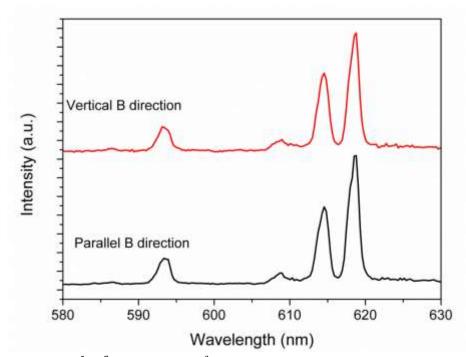


Fig 6 Integrated intensity of  ${}^{5}D_{0}$ - ${}^{7}F_{2}$  PL of YVO<sub>4</sub>:Eu<sup>3+</sup> single crystal versus magnetic field at 4.2K



**Fig 7** PL of  ${}^{5}D_{0}{}^{-7}F_{2}$  in YVO<sub>4</sub>:Eu<sup>3+</sup> single crystal in different direction for parallel and vertical magnetic field direction at 77K



**Fig 8** PL of  ${}^{5}D_{0}{}^{-7}F_{2}$  in GdVO<sub>4</sub>:Eu<sup>3+</sup> single crystal in different direction for parallel and vertical magnetic field direction at 77K