

LATEST NEWS

Raman scattering in ZnO thin films doped with Fe, Sb, Ga and Li



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Our message

- Localized vibrational modes (LVMs) in Fe, Sb and Ga doped ZnO thin films (PLD on (0001)-Al₂O₃).
- Specific LVMs for Fe, Sb, Ga.
- LVMs, previously assigned to N incorporation,^b are also related to Fe and Sb!
- LVMs due to lattice defects?
- Previous mode assignment should not be used for N content calibration!

Additional modes

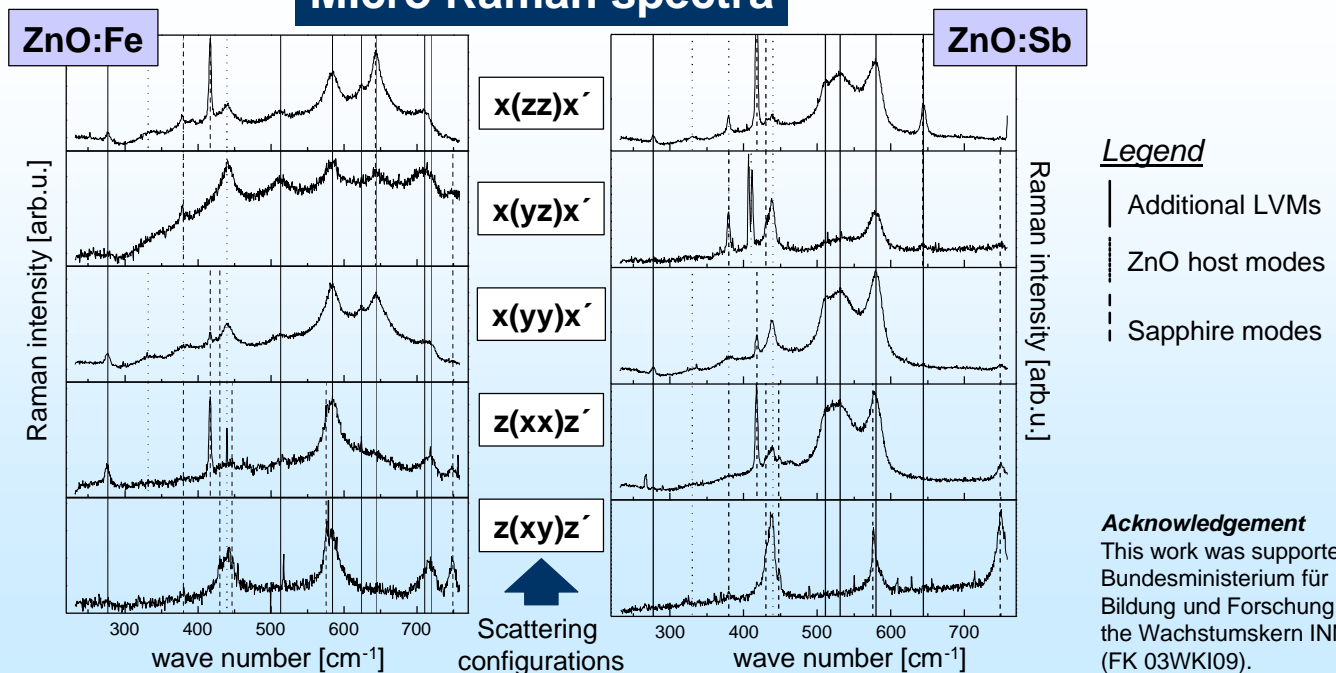
ZnO:Fe	277, 514,	584, 624, 644, 713 ^a , 720 ^a
ZnO:Sb	277, 511, 531 ^a , 583,	644
ZnO:Ga	277,	631 ^a
ZnO:Ga ^b	277, 512,	583, 624, 644
ZnO:Li	-	
ZnO	-	
ZnO:N ^c	275, 510,	582, 643

^a Specific for dopant type

^b Deposition in N₂O atmosphere

^c Kaschner et al., Appl. Phys. Lett. **80**, 1909 (2002); Wang et al., J. Cryst. Growth **226**, 123 (2001)

Micro Raman spectra



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