

## Maurice de Gosson

[back to namelist](#)

---

**Maurice de Gosson**  
*University of Vienna, AT*

### Weak values and the reconstruction problem in Born-Jordan quantization

Some time ago Lundeen et al. (Nature 474, 188-99, 2011) have shown how to reconstruct the wavefunction  $\psi(x)$  by scanning the weak measurements of the projection operator on  $x$ . We show that, more generally, if one works in the Weyl formalism, the post-selected state  $\psi$  can easily be reconstructed from the knowledge of the cross-Wigner transform  $W(\psi, \psi)$  and of the pre-selected state  $\psi$  (and vice-versa); Lundeen's result is then obtained as a particular case of our formula. Mathematical difficulties however occur when one replaces Weyl quantization by the more physical Born-Jordan quantization. We expose some of these difficulties in the present talk, and briefly discuss the example of the squared angular momentum.

[Watch presentation video](#)



[Download presentation pdf](#)



[Download abstract pdf](#)

