

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 ψ can easily be reconstructed from the knowledge of the cross-Wigner transform $W(\psi, \psi)$ and of the pre-selected state ψ (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.

[Download presentation pdf](#)



[Download abstract pdf](#)

