

# Consistent Quantum Realism: A Reply to Griffiths

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*Received February 8, 2000*

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We call attention on the fact that we have already replied to the criticisms put forward by R. B. Griffiths to our position about decoherent histories.

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**KEY WORDS:** Decoherent histories; realism; foundations of quantum mechanics; truth functionals.

In his paper on this journal<sup>(1)</sup> Griffiths claims that the requirement we have put forward in our paper,<sup>(2)</sup> i.e., that any decoherent history should have a well defined truth value, independently from the decoherent family to which it may belong, violates one of the basic assumption of the decoherent histories approach, i.e., the single family rule. We call the reader's attention to the fact that Griffiths has already put forward a quite similar argument in a recent paper,<sup>(3)</sup> once more as a comment to a paper<sup>(4)</sup> by us. Since we have already replied to Griffiths' criticism in ref. 5 and the argument presented in ref. 1 does not differ in any essential point from the one of ref. 3, we think it useless to repeat once more our analysis and we refer the reader to ref. 5 for what we consider an exhaustive analysis of the implications of our as well as of Griffiths' positions about the point under debate.

## REFERENCES

1. R. B. Griffiths, Consistent quantum realism: a reply to Bassi and Ghirardi, *J. Stat. Phys.*, to appear.
2. A. Bassi and G. C. Ghirardi, Decoherent histories and realism, *J. Stat. Phys.* **98**:457 (2000).
3. R. B. Griffiths, *Phys. Lett. A* **265**:12 (2000).
4. A. Bassi and G.C. Ghirardi, *Phys. Lett. A* **257**:247 (1999).
5. A. Bassi and G. C. Ghirardi, *Phys. Lett. A* **265**:153 (2000).

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