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**Noise suppression in inverse weak value-based phase detection.** (English) Zbl 1423.81026  
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**Summary:** We examine the effect of different sources of technical noise on inverse weak value-based precision phase measurements. We find that this type of measurement is similarly robust to technical noise as related experiments in the weak value regime. In particular, the measurements considered here are robust to additive Gaussian white noise and angular jitter noise commonly encountered in optical experiments. Additionally, we show the same techniques used for precision phase measurement can be used with the same technical advantages for optical frequency measurements.

**MSC:**

- 81P15 Quantum measurement theory, state operations, state preparations
- 94A13 Detection theory in information and communication theory
- 94A12 Signal theory (characterization, reconstruction, filtering, etc.)
- 81V80 Quantum optics
- 60H40 White noise theory

**Keywords:**

[weak values](#); [weak value amplification](#); [technical noise](#); [precision phase measurements](#); [precision frequency measurements](#)

**Full Text:** [DOI](#)

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