

# ROOT @ SW Citation Workshop

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# Status Quo

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- Citation happens through  $\geq 0$  of the following options:
  - Original ROOT publication (from 1997): 4.4k citations [semanticscholar.org], 7.5k [scholar.google]
  - Newest ROOT overview publication: 0.6k citations [semanticscholar.org]
  - Zenodo DOI: Zenodo claims "0 citations" (for any version?); Google shows 15 hits for "10.5281/zenodo.848818" and 3 on arxiv.org
  - Github repo: Google shows 6 on arxiv.org
  - Free-text "ROOT version x.y": Google shows 214 on arxiv.org

# Versioned Citation for ROOT

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- Vast majority of citations are not version specific
- In 25 years, no case of "if only we could tell that the analysis used ROOT version x.y.z which caused physics results to be wrong"

# What we want from SW Citation

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# Why do **we** not care about SW citation?

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- After 25 years, no visible effect of SW careers in academic HEP: hypothetical ubiquitous SW citation isn't going to change that
- We get paid for our work, are in constant exchange with users. Praise by happy users / impact is our reward; a citation is not adding much
- Citation is no indication of actual usage count, and nobody (not even the funding agencies) claim this (to us)
- Getting Zenodo to grok our author list is not worth the effort: virtually zero requests for "can you provide DOI for new version?"

# Don't get me wrong

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- Esp our students need publications, and citing those matters!
  - But that's SW R&D, not physics analyses
- We appreciate citations, also of crucial parts: RooFit, TMVA, etc
- It's nice to see a continuous, steady citation stream

# ROOT's Opinion

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- Citation for software with journal publication: current system works well
- Open source usage cannot be traced by citation (esp. for non-user facing utility packages), yet usage is what really counts for "relevance"
- One love letter from a user is worth 1000 citations
- But we are privileged: sustainability virtually guaranteed, nobody asks "do you have users", citation count does not affect number of positions.
  - ROOT's opinion likely cannot be extrapolated.