Automated arXiv feeds on Twitter:
On the role of bots in scholarly communication

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Over the last 20 years, depositing free and easily accessible eprints on arXiv, in parallel with publication in a peer-review journal, has become the typical publication cycle in physics, mathematics, computer science and related fields (Larivière et al., 2014). Since its creation in 2006, Twitter became increasingly used to distribute scientific documents and is now one of the largest sources of social media-based indicators of scientific research (Costas, Zahedi, & Wouters, 2014; Thelwall, Haustein, Larivière & Sugimoto, 2013). However, the presence of automated Twitter accounts (so-called "bots"), which distribute links to arXiv eprints automatically, questions the validity of tweets as an indicator of social media activity. Shuai, Pepe and Bollen (2012) reported that 53% of a sample of tweets mentioning 4,606 arXiv eprints came from such accounts. We examined 51 Twitter accounts distributing arXiv eprints and found that: 43 were automatically sending all submissions from an arXiv subject area, 4 focused on a particular topic, and 4 seemed to be more selective in their tweeting. The first two categories, which can be considered as automated feeds, accounted for a total of 97,429 tweets. As such they undermine the validity of tweets as an indicator of impact or filter of relevance. We propose that these tweets should be removed when generating altmetric indicators and explore possibilities to do so.

References

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