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<th><strong>Title</strong></th>
<th>Status of mathematical publication in Japan</th>
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Osaka University
Status of mathematical publication in Japan: SPARC Japan and institutional repositories play an essential role
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1. Introduction
When we use MathSciNet, we can find a number of mathematical journals in Japan. However, it is uncertain how many different titles of mathematical journals are published and how many articles appeared in them. We should have been aware of this fact. For example, about 10 titles of major mathematical journals, which are supported by SPARC Japan, IR of Kyoto University Library, and IR of the University of Tokyo Library, account for approximately 5 to 10 percent of articles in certain research fields in the world (Figure 1). Also, we can note from this fact that the number of articles published in Japan is not far behind the number published by Springer and Elsevier. From these facts, it is clear that SPARC Japan and institutional repositories play an important role for mathematical publications in the world. These repositories contain about 1000 articles each. However, according to MathSciNet, there are over 100 titles of mathematical journals and university bulletins containing less than 20 articles each. Including these titles, contributions of Japanese mathematical publication to the world will achieve more recognition.

2. List of Journals
In this section we show the list of journals and the number of articles which is published in a journal.

3. Big Deal versus Mathematical Community in Japan
By the following figures we can observe the relative positions of our publications compared with Springer and Elsevier in each research field. In many research fields, we can recognize that publications in Japan keep high performance.

4. Conclusion
There was no quantitative investigations about publications related to mathematics in Japan. In this research we found that our publications were kept its performance high even if these are compared with Big Deal.

Figure 1: 11: Number Theory (1766/34968)
Figure 2: 12: Field Theory and Polynomials (507/6595)
Figure 3: 14: Algebraic Geometry (519/1744)
Figure 4: 31: Potential Theory (540/5366)
Figure 5: 53: Differential Geometry (3210/39080)
Figure 6: 58: Global analysis, analysis on manifolds (1983/36832)