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論文題目：Chow rings of nonabelian p -groups of order p^3 , JMSJ, 64 (2012), 507–531.

受賞者のことば：

悪い論文の見本のような自分の論文が受賞し、恐縮しています。論文作り始めのころは、それなりの事が出来たと思いましたが、よく見ると簡単な話しになっていき、こんな安易な話では Journal は無理だろうと思ったことを思い出します。しかも、小さな非可換 p -群のコホモロジー環と言う特殊な話題なので受賞には驚いています。しかし今後もこの事を励みにして勉強を続けていけたら幸せと思います。最後に一緒に群のコホモロジーを勉強し、色々教えてもらった手塚康誠氏と何でも話せた同僚で去年なくなった岡安隆氏に感謝の気持ちを述べたいと思います。

著者：Gopal Prasad 氏 (Univ. of Michigan), Sai-Kee Yeung 氏 (Purdue Univ.)

論文題目：Nonexistence of arithmetic fake compact Hermitian symmetric spaces of type other than $A_n (n \leq 4)$, JMSJ, 64 (2012), 683–731.

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Impression/Acknowledgement

It is a great honor for the authors that our paper was awarded 2013 JMSJ Outstanding Paper Prize. This paper is the third installment of a project initiated by the authors. It began with a paper of the authors on classification of *fake projective planes*. A fake projective plane is a smooth complex projective algebraic surface with the same Betti numbers as the complex projective plane but which is not biholomorphic to it. The first example of such a surface was constructed by D. Mumford in 1979 using p -adic uniformization. In the ensuing years, two more examples were constructed by M. Ishida and F. Kato using Mumford's method, and one more by J. Keum. Fake projective planes are interesting because they have the smallest possible Euler number among all smooth surfaces of general type. It is known that a fake projective plane is the quotient of the complex two ball by an arithmetic subgroup of the automorphism group of the latter.

In a paper which appeared in *Inventiones Mathematicae* vol. **168** (Addendum in *ibid.* vol. **182**), the authors devised a scheme to classify and construct all fake projective planes. These surfaces were classified into twenty eight classes, with explicit examples given in each class. The authors also showed that a complete list of fake projective planes will be obtained once all subgroups of some predetermined small index of certain arithmetic subgroups of $PU(2, 1)$ are enumerated. This enumeration was done by D. Cartwright and T. Steger using long and very clever computer-assisted computations. In this way, they found that altogether there are precisely 100 fake projective planes.

A natural question is whether similar manifolds exist in higher dimensions. This led to the second paper of the authors which appeared in *American Journal of Mathematics* vol. **131**. In this paper, the authors considered arithmetic fake projective spaces and fake grassmanians. The authors classified such manifolds and constructed the first examples of fake projective four spaces and fake Grassmanians.

From the above two papers, it became clear that it would be interesting to classify all “arithmetic fake compact Hermitian symmetric spaces”. This led us to the paper which has appeared in *JMSJ* last year. In this paper, we have considered which compact hermitian symmetric spaces admit an arithmetic fake analogue. We have proved in this paper that arithmetic fake compact hermitian symmetric spaces can arise only from the groups $SU(p, q)$ with $p + q \leq 5$. The paper provides an approach to list locally Hermitian symmetric spaces of sufficiently small volume.

Throughout the project, the authors were greatly encouraged by the interests of colleagues from Japan. Professor S. Kondo organized a conference on fake projective planes at Nagoya University in 2006, just after our first paper was completed. We were invited to give talks at Nagoya, Kyoto, Osaka, Tokyo and several other places in Japan and we were touched by the warm hospitality of our hosts.