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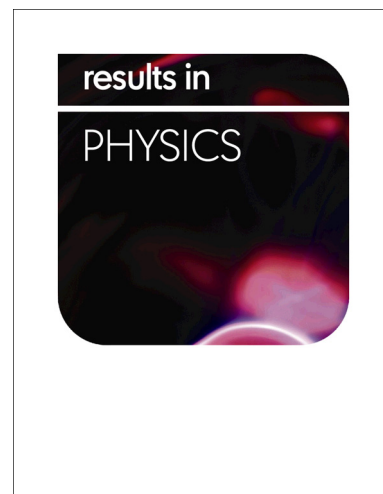
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# Surface modification of porous titanium with rice husk as space holder

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**Abstract:** Porous titanium was characterized after its surface modification by acid and alkali solution immersion. The results show that the acid surface treatment caused the emergence of flocculent sodium titanate and induced apatite formation. The surface modification of porous titanium promotes biological activation, and the application of porous titanium is also improved as an implant material because of the existence of C and Si.

**Key words:** Porous titanium, Surface modification, Microstructure, XPS

## 1. Introduction

Porous titanium has been proposed as a bone defect repair material, to achieve an adequate bone bonding degree, materials must have a good biological activity[1-3]. Dense titanium has the disadvantages of poor biological activity and of a mismatch with the bone elastic modulus[4-7]. Surface modification technologies can improve the biological activity of the porous titanium, improving the degree of binding and reducing immune rejection[8]. Alkali-base surface modification can allow the formation of a layer of bone-like apatite on the titanium surface, providing the

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