

越南数学家Ngo Bao Chau证明的一个基本引理被《时代》杂志列为2009年度十大科学发现

过去三十年相关领域的数学家一致期望Langlands Program中的一个基本引理会被证明的确是精确的。[Ngo Bao Chau](#)一位在法国Université Paris-Sud 和普林斯顿Institute for Advanced Study (IAS) 工作的越南数学家（1972年生于越南河内），证明了这一引理，2009年相关领域的数学家验证了他的证明。这一结果被《时代》杂志列为2009年度十大科学发现的第七项。

The Fundamental Lemma, Solved

In 1979 the Canadian-American mathematician Robert Langlands developed an ambitious and revolutionary theory that connected two branches of mathematics called number theory and group theory. In a dazzling set of conjectures and insights, the theory captured deep symmetries associated with equations that involve whole numbers, laying out what is now known as the Langlands program. Langlands knew that the task of proving the assumptions that underlie his theory would be the work of generations. But he was convinced that one stepping stone that needed confirmation — dubbed the "fundamental lemma" — would be reasonably straightforward. He, his collaborators and his students were able to prove special cases of this fundamental theorem. But proving the general case proved more difficult than Langlands anticipated — so difficult, in fact, that it took 30 years to finally achieve. Over the past few years, Ngo Bao Chau, a Vietnamese mathematician working at Université Paris-Sud and the Institute for Advanced Study (IAS) in Princeton, formulated an ingenious proof of the fundamental lemma. When it was checked this year and confirmed to be correct, mathematicians around the globe breathed a sigh of relief. Mathematicians' work in this area in the last three decades was predicated on the principle that the fundamental lemma was indeed accurate and would one day be proved. "It's as if people were working on the far side of the river waiting for someone to throw this bridge across," says Peter Sarnak, a number theorist at IAS. "And now all of sudden everyone's work on the other side of the river has been proven."

《时代》杂志列为2009年度十大科学发现

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