

李政道 科学论文选



中国高等科学技术中心 编

【三册】

上海科学技术出版社

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序

我和政道相识相知于60年前昆明西南联大。当时我们曾一起听吴大猷老师的量子力学课，对物理学的共同热爱，把我们紧紧联系在一起。那时，政道已显露出起人的物理才华，深受老师的赞誉和同学们的钦佩。1946年夏我们一同赴美留学，尽管不在同一所大学学习，但经常相聚探讨物理学问题。1950年我回国后，我们的联系中断了20多年，直到1972年才复在北京相聚。而今政道和我都已至耄耋之年，60年来的经历仍历历在目。

政道物理研究的面很广泛，诸如天体、流体、粒子、统计、核物理等方面都有所涉及，他的许多成就对物理学的发展起了很大的推进作用。在政道80华诞之际，中国高等科学技术中心的叶铭汉院士等同仁，把政道60年的科学论文精选了一百余篇，汇集成《李政道科学论文选》。为了使中国读者能更准确地了解其科学意义，每篇论文前增加了中文评注。这本科学论文选的出版，我相信必然在中国学术界产生重大影响。它不但忠实记载了政道60年来在物理学研究上多方面的成就，而且生动反映了他献身科学、不懈追求的执着精神，尤其使人们看到了耄耋之年的他仍然保持着旺盛的学术创造力，仍在孜孜不倦、夜以继日地进行物理研究。仅2006年头7个月内他已在几个物理领域研究发表了5篇论文。如此高龄仍能取得这样广泛的科学成果，这在科学史上是比较罕见的。他对物理研究情有独钟，把它融入了自己的生命之中。正是这种全身心的投入和深厚热爱，才能使他在纷扰世界和沧桑历史变迁中，心无旁骛，一直保持物理研究的强大动力和浓厚兴趣，才使他对世界物理学的发展做出如此重要的贡献，才使他持久拥有青年时代的研究活力。他十分喜欢杜甫诗句“细推物理须行乐，何用浮名绊此身”，我想这也是政道治学为人的写照。

我衷心祝愿我的老友耄耋之年身体健康，永葆学术青春，再创新的辉煌。

朱光亚

2006年9月6日

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致 谢

为允许本书收入李政道的有关论文,谨向下列论文的原出版者致以感谢。

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已发表论文总目

[说 明]

从 1949 年发表第一篇论文开始, 迄 2007 年 5 月为止, 李政道共发表科学论文 313 篇。这些论文涉及粒子物理、量子场论、核物理、天体物理、流体力学、统计物理、凝聚态物理等诸多领域, 其中不乏在相关领域发展上的里程碑式论文, 有的对物理学的发展起了很大推进作用。正如德雷尔 (S. Drell) 所说: “综观物理学的各个不同领域, 很难找到一处没有留下李政道的足迹, 他犀利的物理直观和高超的解答难题的能力, 为物理学的发展做出了持久而明确的贡献。”^①

下面列出李政道已发表论文总目, 计 313 篇。以年份为组依次排列。每篇论文前加有总目序号。其中 1996 年前的总目序号, 与已出版的四卷本英文版《李政道论文集》的总目序号基本一致^②。

李政道自 1946 年进入美国芝加哥大学研究生院, 师从物理学大师费米, 1950 年获博士学位, 1957 年因弱相互作用宇称不守恒原理的发现获诺贝尔物理学奖。一直孜孜不倦地从事物理研究。迈入耄耋之年, 他仍乐此不疲。

应该指出, 除了记录在这些论文上的创造性研究之外, 60 年来李政道在科学上还有很多未能用文字记录的创造性贡献, 诸如提出原始设想, 促进建造相对论重离子对撞机 (RHIC)、用于计算量子色动力学的超级并行计算机 (QCDSP)、北京正负电子对撞机 (BEPC) 和北京谱仪 (BES) 等等。

在下列已发表论文总目中, 总目序号前标有 “*” 者, 为本书收入的论文。

注释

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