**项目名称：低温脱硝催化剂的工业制备及工业示范应用**

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**项目简介：烟气脱硝技术是目前世界上采用的最多的减少NOX的方法，其中应用较多的是选择性催化还原法和选择性非催化还原法，SCR技术能达到90%以上的氮氧化物脱除率。然而，该技术在实践应用中也逐步显现出一些缺陷，如反应温度窗口狭窄、NH3易泄漏和催化剂磨损严重等问题。催化剂是烟气脱硝工艺中最为核心的部分，然而催化剂价格昂贵，导致烟气治理工作难以全面实施。催化剂的价格昂贵不仅是因为原材料成本高，其制备工艺的复杂及高耗能更是增加其成本的重要原因。因此，如何采用简单、有效、节能的方法制备出一种高效催化剂一直是国内外学者研究的难题之一。近年来，低温等离子体技术凭借能够在常温下活化和转化反应分子的特点，在烟气脱硝方面备受青睐。低温等离子体技术在脱硝反应过程中可同时去除多种污染物，是一种十分理想的燃煤烟气处理技术。但该技术也存在问题，比如脱硝反应效率低、产物分布广、目标产物选择性差等。通过选取价格低廉且易得的粉煤灰作为催化剂的主要载体，在其成型过程中添加少量的膨润土作为粘结剂，制备粉煤灰基脱硝催化剂。并在此基础上对粉煤灰分别进行等离子体改性和金属氧化物负载，制备出一系列性能好的粉煤灰改性、金属负载及改性负载型粉煤灰催化剂。**

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1. **文章（限15篇）（文章的第一作者、通讯作者必须为奖励申报完成人）**

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1. **专利&软著**

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| 专利（软著）名称 | 完成人 | 权人 | 专利（软著）号 |
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1. **专著等**

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