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2015年中国家用电器技术大会

论文集

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拥抱技术（代序）

2015 年已经走到最后一个季度。中国家电行业最近谈论最多的当属市场不好、需求不旺，也有人在猜测下一个兴旺的周期何时到来。然而，摆在中国家电行业面前的是无法回避的新常态。这意味着，家电市场规模从长期的高速增长转为接近零增长，甚至面临负增长的考验。同时，劳动力等制造成本的高企，大大减弱了中国家电企业的盈利能力。对于一向处于增长通道的家电制造业，这如同从盛夏进入寒冬，确实令人一时难以适应。在我听到的企业观点中，有一种说法淡定且值得赞赏："我们对增长没有指标要求，既然市场规模收缩，那么我们就趁着现在补补课，从管理到品质，再到研发，正好有机会夯实基础，为下一个周期做好准备。"在这样的心态下，说出此番观点的企业负责人正不紧不慢地带领他的企业练习内功，并加大了研发投入。

新常态下，规模增长的发展之路行至拐点，产业转型升级已成为必然。就像寒冬中仍有太阳，消费升级令我们感到温暖。同时，互联网给消费市场注入的粉丝能量，也像那冬日里的一把火，燃点着家电市场。在新常态下，踏上消费升级的节拍，获得粉丝的追捧，无异于冬日里享受温暖的阳光或拥有取暖的篝火。问题在于，我们怎样得到消费升级的阳光和粉丝的温暖能量？是否在做对的产品？产品能否得到关注？口碑好或不好？跟风已经难以把握消费升级的脉搏。作为一个市场化程度极高且竞争充分的行业，把握消费需求趋势和特点，做精品、做口碑已经成为获得消费者支持的不二选择，也是对家电企业研发能力和现代制造能力的考验。

从社会需求来看，节能环保要求愈发严格，无论中国政府对能效的要求，还是欧盟《2030 年气候与能源政策框架》和产品生态设计指令、能效标识指令，或是美国的能源之星产品计划，都是意在持续改进家电产品的能源利用效率，从而减少温室气体排放，这是全球环境发展的共同目标。我们必须意识到，环境指标约束是产业长远发展无法绕开的课题，只有面对和担当。而这个担当，靠的不仅是企业的社会责任意识，还必然需要效益的支撑，并更需要以技术能力为基础和后盾。从产品功能需求来看，今天的消费者越来越专业和实惠，不仅一如既往地讲求外观的美观、新颖、时尚，对便利性、舒适性也有了更加直接的要求，还在不断提升对品质可靠性的要求。互联网信息的便捷性强化了这些需求信号。互联网既可以成为我们与消费者互通信息的窗口，帮助我们向消费者传播产品信息，使我们了解消费者的抱怨，改善产品品质，也可以使抱怨变成销售的拦路虎。

家电研发工程师肩上的担子从未像今天这样重！同时，我们也开心地看到，中国家电技术人员的队伍也从未像今天这般强大！他们学习运用最前沿的创新理论以及研究方法和工具，从研究消费需求入手，剖析消费痛点，研究满足用户需求的解决方案，基础研究和应用技术均达到前所未有的深度。值得一提的是，在先进制造方面，家电产业链上的企业都不同程度地在产品组件的标准化、模块化、信息化与工厂物流的结合、大规模的机器人作业上下功夫，制造能力得到新的提升。在智能化方面，过去的一年成为智能产品最为活跃的一年，智能家电对产品功能的放大吸引了消费者的关注，尽管供求双方在需求点上还需反复磨合。

与经济下行形成鲜明对比的是，家电研发热度势头不减。本届技术大会的论文从数量、选题、内容到研究方法、结论都可以辅证这一点。为了更多地收录论文，我们参考其他技术会议的方式，今年对论文集的出版模式进行调整。今年纸

制版论文集仅刊出论文题目、中英文摘要、关键词和第一作者简介，论文正文则以电子版形式发行。这一方式便于读者阅读和携带，也减少了纸张和运输的消耗，更为绿色环保。

本届技术大会共收到递交论文 260 篇，论文集收录论文 208 篇，淘汰 52 篇，并评选出优秀论文 39 篇。关于论文收录和评审的标准，核心是选题和内容对行业技术进步的价值和意义。我们要求论文的选题对解决技术问题具有针对性，论文的内容具有原创性，论文的写作规范、表达清晰且便于交流。注重内容的原创性是历届技术大会论文集的良好传统。《电器》杂志编辑部对所有论文进行的查重结果显示，与论文库中论文重合率（以下简称查重率）10% 以内的论文共计 188 篇，其中查重率不高于 1% 的论文 87 篇。这充分说明，来自家电行业技术研发一线的论文具有极高的原创性！对于原创性门槛，今年论文集的收录标准进一步提高为查重率 20%。在论文专家评审前，首先淘汰了查重率超过 30% 的论文 26 篇，并要求查重率低于 30% 超过 20% 的论文进行修改，其中未修改或修改后查重率仍超过 20% 的 3 篇论文被淘汰，通过查重共淘汰 29 篇论文。就论文质量的实质性审查，经专家评审，淘汰论文 21 篇，淘汰的主要原因是缺少实质内容或写作不认真且不肯修改。2014 年论文集，通过评审环节淘汰了 46 篇论文，行业中有朋友还是大呼可惜，觉得淘汰数量较多。今年我们对递交的论文中有实质性技术内容但写作质量不够好的，更多地采取了要求作者修改完善的方式。我们的目的是使有实质性技术内容的一线研发实践更多地参与行业技术交流。这也是行业中技术工作者希望看到的。在此，我们也希望更多的研究人员的论文写作能力得到提升。

优秀论文是可供学习的样板！经过专家评审，39 篇论文被评为优秀论文，包括青岛海尔股份有限公司张奎《冰箱喷发噪声的试验研究》、美的集团冰箱事业部张亚虎《基于质点振速测量的近场声全息技术在吹胀蒸发器降噪中的研究与应用》、四川长虹空调有限公司冷少华《柜式空调导风结构对房间流场温度场的影响分析》、广东美的厨房电器制造有限公司陈小润《结构仿真在电商产品包装优化中的应用》、黄石东贝电器股份有限公司吴永恒《基于参数化曲轴泵油结构优化设计》等。优秀论文根据产品研究中的关键问题选题，多用仿真软件模拟计算与实验测量数据进行比对研究，为产品优化设计提供有效工具或解决产品品质上的实际问题。评审专家对于优秀论文的主要评价意见是“选题有意义，论文内容充实，写作规范”。

在此感谢所有论文作者对于研究成果的分享，感谢你们对行业技术进步所做的努力和探索！同时，特别感谢陈江平、李红旗、吴建华、何国庚、杨一凡、祁冰、胡自强、鲁建国、凌宏浩、万春晖等论文评审专家专业和认真的工作！更要感谢的是行业及产业链上所有工程技术人员，正是你们日常的、日积月累的艰辛工作和不懈努力，成就了中国家电行业的技术进步！期待在本届技术大会上，大家有更多、更精彩的分享。

中国家用电器协会副理事长

2015 年 10 月 16 日

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