

Conference Keynote Speaker



Prof. Junhao Chu
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Academician Junhao Chu is the chief expert of Science and Technology Project No.973, and the academic leader of National Science Fund Innovative Research Group. He is also the representative of the National People's Congress(NPC). He is currently working for Shanghai Solar cell Research and Development Center as a director, and also a chief editor of the Journal of Infrared and Millimeter Waves. He has deeply engaged in the research of infrared light electronic devices and materials. Developing physics and device research of narrow band gaps semiconductor HgCdTe and ferroelectric thin films materials that used for infrared detectors. He proposed the forbidden band width equal formula of HgCdTe, that called CXT formula in the international, it had been widely quoted and the best fit the experimental results. Established with the narrow band gaps semiconductor MIS device structure 2D electron gas band structure theoretical model, Founded out the basic photoelectric transition properties between bandtoband transition and impurity transition of HgCdTe. Putted forward the eigenvalue HgCdTe light absorption coefficient expression and refractive index expression, determined the photoelectric estimating condition of materials devices. Developing the ferroelectric thin films materials physics and the non-refrigeration infrared detector research. And successfully developed PZT and BST ferroelectric thin films the refrigeration infrared detector and realized the thermal imaging. He had published 316 papers and got many significant awards from National Natural Science and CAS of Natural Science.

褚君浩院士是科技部 973 项目首席专家、国家自然科学基金创新研究群体学术带头人，现任全国人大代表、并任上海太阳能电池研发中心主任，同时担任《红外与毫米波学报》主编。长期从事红外光电子材料和器件的研究，开展了用于红外探测器的窄禁带半导体碲镉汞（HgCdTe）和铁电薄膜的材料物理和器件研究。提出了 HgCdTe 的禁带宽度等关系式，被国际上称为 CXT 公式，广泛引用并认为与实验结果最符合；建立了研究窄禁带半导体 MIS 器件结构二维电子气子能带结构的理论模型；发现 HgCdTe 的带间跃迁、杂质跃迁等基本光电跃迁特性，提出 HgCdTe 本征光吸收系数表达式和折射率表达式，确定了材料器件的光电判别依据；开展铁电薄膜材料物理和非制冷红外探测器研究，研制成功 PZT 和 BST 铁电薄膜非制冷红外探测器并实现了热成像。发表论文 316 篇。获国家自然科学、中国科学院自然科学多个重要奖项。