

Intersubband Transitions: their Physics and their Future.

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Since their discovery, in the mid '70's, in silicon MOSFET's, electronic ISBT's have morphed from being a scientific curiosity to an established opto-electronic technology. The process employed thousands of enthusiastic and able scientists, and yielded lasers, detectors and optical switches of undreamt-of ingenuity and elegance, but there will be almost no space for these in this talk.

Instead, I aim to spend roughly half the time trying to introduce ISBT's, their essential characteristics, strengths and weaknesses, to the latest generation of students who are about to work with them. After that I will leapfrog carelessly over all the latest device developments, leaving the rest of the conference to describe them for you, and indulge in some wild and irresponsible speculation. The question is, what new bits of ISBT physics are there that might come to the fore in the coming years' devices? I will be sure to leave time for discussion afterwards.