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Keywords <i>select as appropriate</i>	Security	x	Fraud Control	o	Privacy	O	
<i>(Add keywords from list)</i>							
Research Overview:							
<p>The study of chaos in a variety of physical and biological systems has been a major growth point in recent years. As understanding of the complex dynamics of chaotic systems has developed, attention has been given to the control and hence application of chaotic dynamics. A specific engineering application of chaos is in the encryption of data to effect secure communications. For such an application there is a need to be able to generate and control chaos and also to be able to synchronise chaotic transmitters and receivers. It has been found that many laser systems exhibit dynamical chaos and, in particular, semiconductor lasers can be driven into chaotic regimes by a number of means.</p> <p>Given the pivotal role of semiconductor lasers in optical communications it is pertinent to examine the feasibility of utilising them to achieve chaotic optical data encryption. The thrust of the present project is the development of practical semiconductor laser configurations where chaos can be generated and controlled. Prototype devices are to be fabricated and tested with careful attention being given to the design and implementation of appropriate driving circuitry. The work is being undertaken in collaboration with NORTEL, Paignton and the University of Bath.</p> <p>Further details of activities within the Bangor group can be found at : http://www.sees.bangor.ac.uk/~alan/welcome.htm</p>							
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Research Project overviews:							
Researcher(s): Co-investigator Dr J Sarma (University of Bath); Dr P.S.Spencer, Dr P.Rees, Dr S.Sivaprakasam all at Bangor							

email:

details: Infrastructure for chaotic optical data encryption

Further details of the project can be found at :

<http://www.sees.bangor.ac.uk/~alan/icodproj.htm>

Publications arising from the project are found at

<http://www.sees.bangor.ac.uk/~alan/icodeweb.htm>

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