



UNIVERSITAT POLITÈCNICA DE CATALUNYA

DEPARTAMENT D'ENGINYERIA ELECTRÒNICA

## **Diseño Microelectrónico de Controladores para Convertidores Conmutados Continua-Continua**

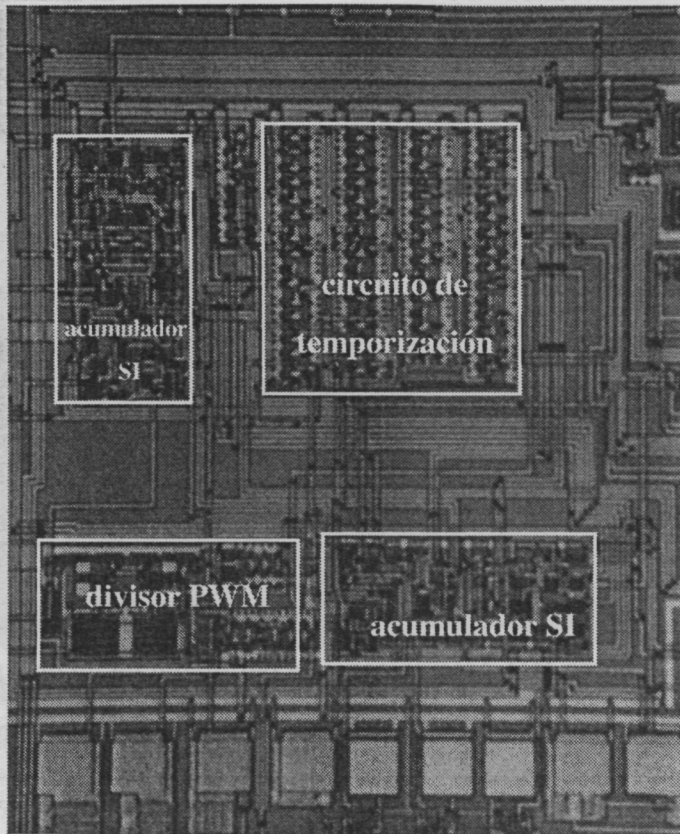
Tesis doctoral presentada  
para la obtención del título de  
Doctor Ingeniero de Telecomunicación por

*Eduard Alarcón Cot*

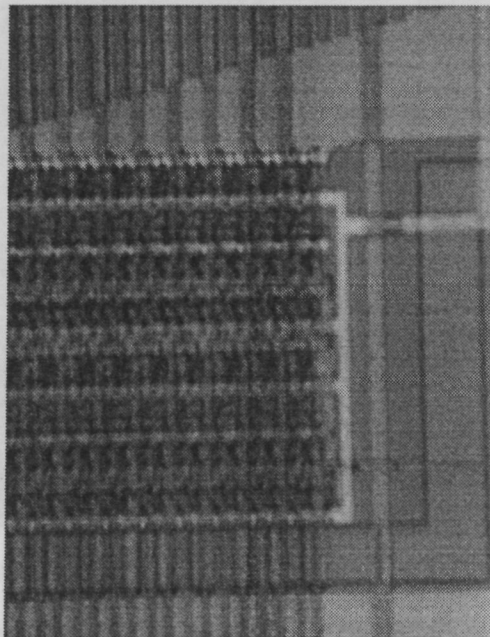
Director:

*Dr. Alberto Poveda López*

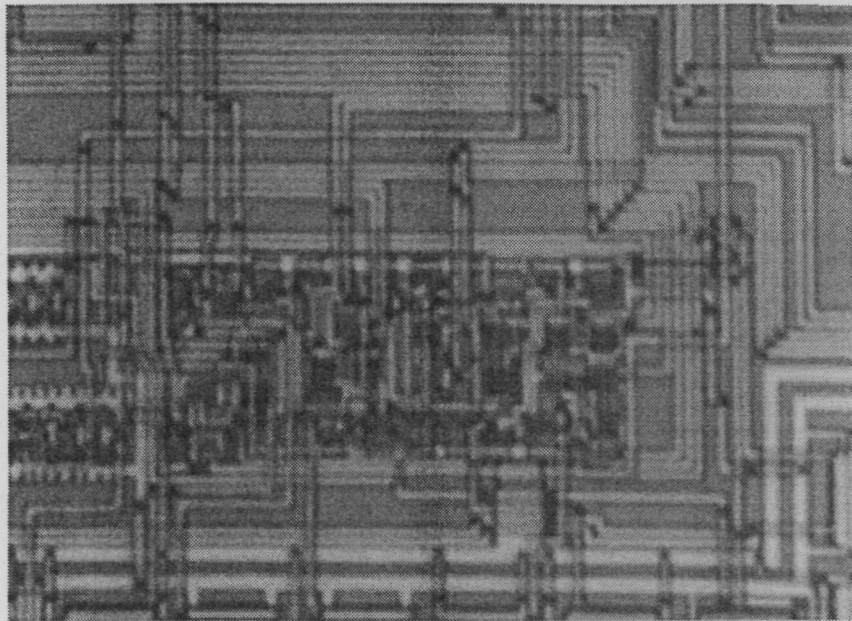
*Barcelona, Noviembre de 1999*



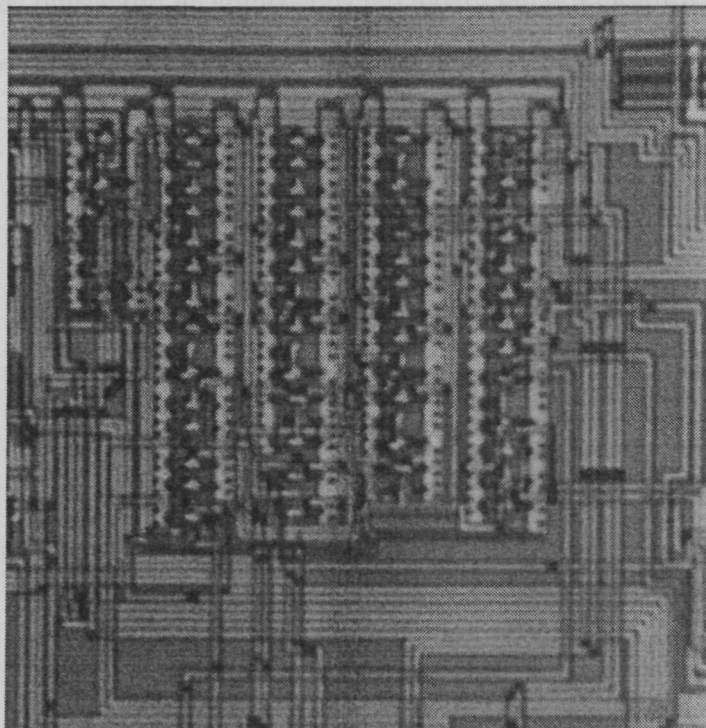
**Figura B14** Microfotografía del *layout* del subsistema de procesado secuencial en corriente (control de temporización + dos acumuladores *switched-current* + divisor de transimpedancia PWM)



**Figura B15** Microfotografía del *layout* de los subcircuitos de retardo digital variable (cadena de *starved inverters*)

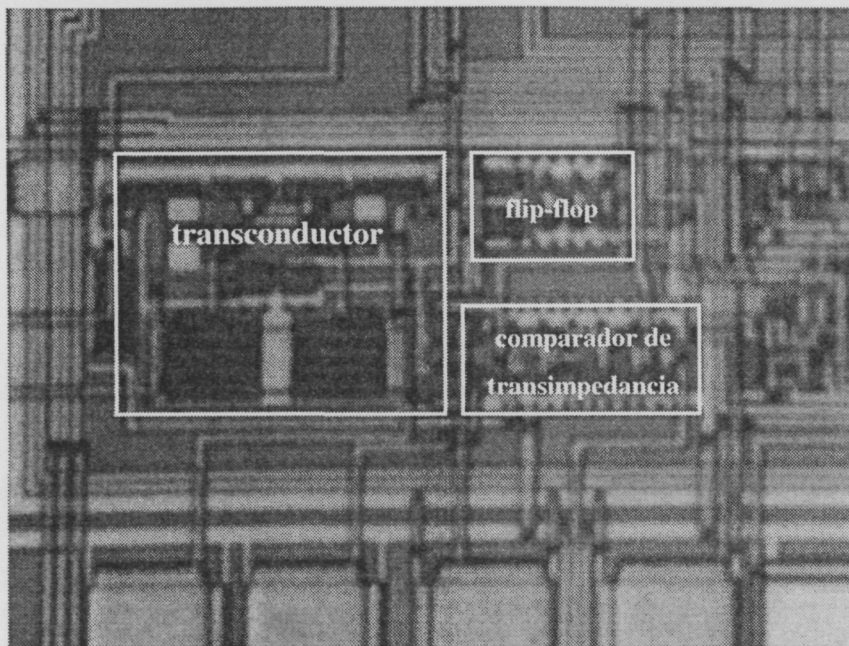


**Figura B16** Microfotografía del *layout* de un circuito acumulador de corrientes conmutadas (células cascode regulado)



**Figura B17** Microfotografía del *layout* del circuito de temporización secuencial (circuitos de *non-overlapping clock* con *starved inverters*)





**Figura B18** Microfotografía del *layout* del circuito divisor de transimpedancia mediante modulación PWM

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