

Title (en)  
EXTENDED INTERACTION OSCILLATOR

Publication  
**EP 0040998 B1 19840222 (FR)**

Application  
**EP 81400706 A 19810505**

Priority  
FR 8011552 A 19800523

Abstract (en)  
[origin: US4439746A] This oscillator comprises a periodic structure line constituted by a succession of vanes having an orifice in which propagates a linear electron beam. This line is placed over a cavity constituted by a straight parallelepiped which has a rectangular base, whose dimensions are determined in such a way that it behaves like a waveguide at the cut-off frequency, along the longitudinal axis of the line and on a transverse magnetic or TM<sub>mn</sub> mode with m=1, 3, 5 etc. and n=1, 2, 3, 4 etc. Coupling slots are provided on the cavity between two successive vanes and in a gap between pairs of vanes. The anode voltage of the beam and the distance between two successive vanes are selected in such a way that the cavity resonates at the cut-off frequency and on the pi mode. Applications include measuring oscillators and heterodyne radar transmitters and receivers.

IPC 1-7  
**H01J 25/11**; **H01J 23/24**

IPC 8 full level  
**H03B 9/00** (2006.01); **H01J 23/24** (2006.01); **H01J 25/11** (2006.01)

CPC (source: EP US)  
**H01J 23/24** (2013.01 - EP US); **H01J 25/11** (2013.01 - EP US)

Cited by  
FR2581255A1

Designated contracting state (EPC)  
DE GB NL

DOCDB simple family (publication)  
**EP 0040998 A1 19811202**; **EP 0040998 B1 19840222**; CA 1173120 A 19840821; DE 3162346 D1 19840329; FR 2483125 A1 19811127; FR 2483125 B1 19821203; JP S5720005 A 19820202; US 4439746 A 19840327

DOCDB simple family (application)  
**EP 81400706 A 19810505**; CA 378021 A 19810521; DE 3162346 T 19810505; FR 8011552 A 19800523; JP 7786881 A 19810522; US 26537581 A 19810520