

《中国激光》1985年(第12卷,总97~108期)总目录

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CO₂ 激光穴位烧灼对家兔迷走神经食管背侧干电位的影响

为了证实 CO₂ 激光治疗家畜结症是否通过副交感神经起作用,我们用 CO₂ 激光烧灼家兔的相应穴位,观察了迷走神经食管背侧干的电位变化。

实验选用体重 2~3.8 kg 的家兔 10 只,麻醉后手术分离出迷走神经食管背侧干,置于引导电极上,经前级放大后输入示波器,观察电位并照相记录。

取关元穴、脾俞、气海俞、肝俞等穴位,用烧灼头尖端距穴位 5~10 cm 的 CO₂ 激光,两侧各穴烧灼 2 秒钟,观察电位变化并照像记录,对其结果进行统计

学处理。

实验结果表明,用 30 W CO₂ 激光烧灼穴位,能明显地兴奋副交感神经,不仅迷走神经食管背侧干的电位明显增强,频率明显增加,而且肠管的蠕动加快,波幅增大,腺体分泌增加,从而达到治疗结症的目的。

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Laser-induced damage tests geared to the nationwide needs	9	105	531
Better results syththesis of vitamin D ₂ by laser photolysis	9	105	575
Two items on clinical applications of He-Ne lasers	0	105	575
Repeated growth of large KCl crystals with infrared transmissivity	9	105	576
Actively mode-locked Nd:YAG laser developed and put into operation	11	107	703
Compact 100 Hz TEA N ₂ laser	11	107	647
A laser system with a pulse-compressor and phase-compensator	12	108	750
A compact, selaed-off self-heated CuCl ₂ laser	12	108	751
A compact TEA CO ₂ laser	12	108	751
SP-I t two-layered metal mesh shield room expertized	12	108	752
Method of quick test and measurement of lifetime for intracavity He-Ne lasers expertized	12	108	752
Laser-bred new varieties of peach trees "Shaji No.1" and "Shaji No. 2"	12	108	752
Effect of CO ₂ laser burn of acupuncture point on potential of vagus beside caaphagus of arbbits	12	108	753
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我国第一台自由电子激光器投入运转

本文报道国内首次获得自由电子激光器辐射输出的实验结果。这是台基于受激喇曼散射的自由电子激光器。

电子束是由改装的 EB-1 型强流脉冲电子加速器发射的^[1], 标称电压为 0.5MeV, 束流 50kA, 脉宽 60ns。φ6mm 实心柱状电子束及 φ16mm、厚 1mm 中空柱状电子束均获得激光输出。该电子束在强轴向磁场(0~20kG 可变)的引导下进入漂移管, 受到静磁摆动器的泵浦(右旋圆极化双绕电磁摆动器及轴对称环状铁磁摆动器。两种摆动器均获得激光输出)。在恰当的条件组合下即获得相干自发辐射放大式的激光辐射。辐射由漂移管末端的 Ka 波段增

益为 13dB 的喇叭透射输出, 被一只 H 面喇叭接收后经由 3.3m 长的波导管进入屏蔽层, 经由高通滤波器—可变衰减器—晶体检波器—示波器组合系统记录辐射的波形照片。典型的实验结果是: 激光脉冲半高宽约 20ns, 平均功率为 0.5MW, 波长落在 Ka 波段(8mm 左右)。这一水平比起国外最好结果还有 1~2 个数量级的差别。但相信在作了参量最优化实验之后会有提高。详细的实验设备及实验过程结果分析等将另文发表。

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