螺旋锥齿轮六轴五联动数控加工模型

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关键词： 螺旋锥齿轮 六轴五联动 加工模型 转换原理 展成法

摘　要： 基于空间坐标变换原理，研究了六轴五联动数控螺旋锥齿轮机床的运动规律，并建立了机床的加工坐标系；分析了由传统机床调整参数转换为六轴五联动数控机床调整参数的原理并提出了螺旋锥齿轮六轴五联动数控加工数学模型。此外，根据传统机床的大轮展成加工方法，推导出六轴五联动螺旋锥齿轮机床大轮展成法加工原理。最后根据实例计算，并得到了5个联动轴加工时的瞬时位置以及与时间的四阶表达式。　Based on the space coordinates transformation principle, the movement rules of the numerical controls spiral bevel gear machine with six axes five linkages were studied, and the machine machining coordinate systems were established. The principle was analyzed from the traditional machine to the numerical controls machine with six axes five linkages and its numerical control mathematical model was proposed. Moreover, according to the gear generating method of traditional machine, the gear generating machining principle of the spiral bevel gear with six axes five linkages was established. Finally, according to the example computation, the instantaneous locations and fourth order expressions with the time were obtained when five linkage axes machining.

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