

## TÍTULO:

# METHOD FOR THE SYNTHESIS OF NANOPARTICLES, COLLECTION AND GENERATION OF COATINGS ASSISTED BY LASER AND HIGH INTENSITY ELECTRIC FIELDS



## TITULARES:

Universidad de Vigo

## APLICACIONES:

Ingeniería biomédica

## PRODUCTO:

Patente

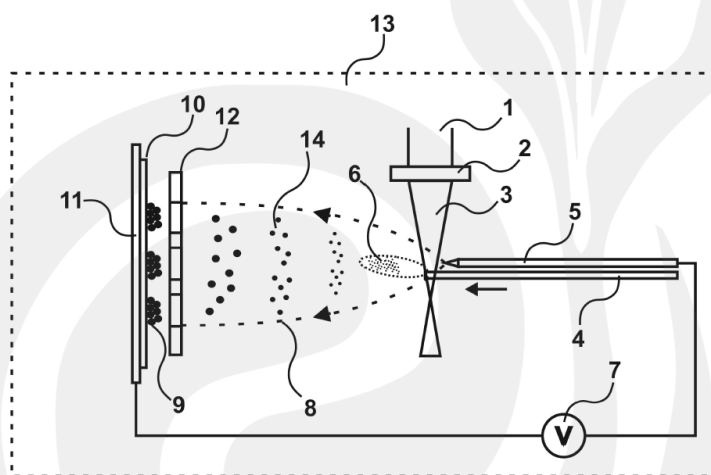
## SITUACIÓN:

United States Patent: Application 16/612,901. Year 2019

<https://portal.uspto.gov/pair/PublicPair>

## RESUMEN

Method for the synthesis of nanoparticles, their collection and generation of coatings assisted by laser and high intensity electric fields. The present invention refers to a method for the synthesis and collection in a single step of nanoparticles of various materials, as well as to obtain coatings of these on materials with simple or complex geometries, both in a controlled atmosphere and under ambient conditions, by means of the combined application of a laser beam and high intensity electric fields.



By means of this new technique, nanoparticle size distribution can be adjusted by means of varying parameters relating to the laser, parameters relating to the electric field 15 required in nanoparticle generation, as well as parameters relating to the process atmosphere. In the case of particle collection on a substrate material, or for the purpose of generating a coating thereon, no preparation whatsoever of said substrate material is required. Finally, the precursor material required for the preparation thereof must be in solid or liquid phase, with no restriction whatsoever being imposed on its shape (although materials with a cylindrical geometry have been observed to be preferable).