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II-2. OPTICALLY NANOSTRUCTURED WAVEGUIDES PRODUCED BY PULSED LASER DEPOSITION (INVITED)

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Pulsed laser deposition is a very suitable technique to produce complex oxide materials, which are basic hosts for the development of many photonic devices. In particular, the incorporation of rare earth ions or nanocrystals in these hosts are well known means to produce active media for gain devices or non-linear materials with an ultrafast response respectively. Examples will be presented in which either rare earth ions (Er^{3+}, Yb^{3+}) or metal nanocrystals (Cu, Au or Ag) are incorporated as dopants in glasses or non-linear crystals. It will be shown that the control of the dopant distribution in the nanometer scale is essential for improved performances.