

**Tipo di tesi:** Laurea triennale

**Corso di Laurea:** Fisica

**Tipologia:** sperimentale

**Titolo della tesi:** Radiofrequency plasma sources based on the helical resonator concept

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**Relatore Accademico:** E. Martines

**Capogruppo:** E. Martines

**Argomento della tesi:**

The usual scheme for radiofrequency plasma sources is to couple the source to the generator through a matching network. However, using a helical resonator (a resonant coil with external screen) as the high voltage element, it is in principle possible to avoid the use of a matching network, provided the resonator is properly designed. The aim of this thesis is to review the literature on helical resonator modeling, having in mind the final objective of using this concept for a low-power handheld plasma source working at atmospheric pressure, and to perform some measurement on actual coils, eventually using a fluorescent lamp as plasma load.

**Competenze richieste (se necessarie):**

**Data della proposta:** 13 gennaio 2020

**Stato:** (non assegnata/assegnata): assegnata

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