

# ICTP Mathematics Seminar

**Title:** Carleson measure Problem for Hardy spaces on tube domains over symmetric cones

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**Abstract:** Let  $\Omega$  be a symmetric cone in  $\mathbb{R}^n$  and  $T_\Omega = \mathbb{R}^n + i\Omega$ , the tube domain over  $\Omega$ . Let  $H^p(T_\Omega)$  be the Hardy space on  $T_\Omega$  which is a higher dimension generalization of the classical Hardy space on the upper half plane. We consider the Carleson measure problem for Hardy space on  $T_\Omega$ . That is the problem of characterizing positive measures  $\mu$  in  $T_\Omega$  such that  $H^p(T_\Omega)$  continuously imbedded into  $L^q(T_\Omega, \mu)$ . In this talk, I will sketch the solution of this problem in dimension one, that is the case of Hardy space on the upper half plane, given by L. Carleson (1962) for  $p = q$ , and P. Duren (1969) for  $p < q$ . I will also report on recent advances on this problem based on joint work with D. Bekolle and B. Sehba.