

**ATMOSPHERIC AEROSOL EVOLUTION AND TRANSPORT OVER  
ATHENS**

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**ABSTACT**

The size distribution of common ionic species mass concentration in the atmospheric aerosol has been studied at two locations at the coastal and inland boundaries of the Athens Metropolitan area. Samples obtained by cascade impactor with size resolution between 0.5 and 32  $\mu\text{m}$  were analysed for  $\text{Cl}^-$ ,  $\text{NO}_3^-$ ,  $\text{SO}_4^-$ ,  $\text{NH}_4^+$ ,  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Mg}^{2+}$  and  $\text{Ca}^{2+}$ .  $\text{Cl}^-$  and  $\text{Na}^+$  are found in the coarse mode which indicate their sea salt origin.  $\text{SO}_4^{2-}$  displays an accumulation mode maximum associated with  $\text{NH}_4^+$ , while  $\text{NO}_3^-$  is found almost exclusively in the coarse mode and is associated with marine salts.