



# Frustration-induced one-dimensionality in the isosceles triangular antiferromagnetic lattice of $\delta$ -(EDT-TTF-CONMe<sub>2</sub>)<sub>2</sub>AsF<sub>6</sub>

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Auteur Náfrádi, Bálint [1], Antal, Ágnes [2], Fehér, Titusz [3], Kiss, Laszlo Ferenc [4], Mézière, Cécile [5], Batail, Patrick [6], Forró, László [7], Jánossy, András [8]

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Résumé en anglais

The 1/4-filled organic compound,  $\delta$ -(EDT-TTF-CONMe<sub>2</sub>)<sub>2</sub>AsF<sub>6</sub> is a frustrated two-dimensional triangular magnetic system as shown by high-frequency (111.2 and 222.4 GHz) electron spin resonance (ESR) and structural data in the literature. The material gradually orders antiferromagnetically below 40 K, but some magnetically disordered domains persist down to 4 K. We propose that in defect free regions frustration prevents true magnetic order down to at least 4 K in spite of the large first- and second-neighbor exchange interactions along chains and between chains, respectively. The antiferromagnetic (AFM) order gradually developing below 40 K nucleates around structural defects that locally cancel frustration. Two antiferromagnetic resonance modes mapped in the principal planes at 4 K are assigned to the very weakly interacting one-dimensional molecular chains in antiferromagnetic regions.

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