MS26-P03 | NEW CA/MG/ZN INTERMETALLICS OF ONE INTERGROWTH FAMILY.

Köhler, Katharina (Albert-Ludwigs-Universität Freiburg, Freiburg, GER); Röhr, Caroline (Albert-Ludwigs-Universität Freiburg, Freiburg, GER)

Ternary intermetallic compounds $A_xM_yM'_z$ of the title family formed between one of the heavier alkaline-earth metals Ca, Sr, or Ba (*A*) and Li/Zn and Li/Al respectively (*M, M'*) show a remarkable series of related structures at an *M/A* ratio between 3.8 and 5.3 [1,2]. They can be arranged into an intergrowth series deduced from the three structure types $Ba_2Li_{4.2}Al_{4.8}$ [1], Th_6Mn_{23} and $EuMg_{5+x}$.

In the system Ca/Mg/Zn (cf. also [4]) two new ternary phases of the title family were obtained (starting from elements, weighed under argon atmosphere in Ta tubes, T_{max}=900°C). The structure of $Ca_9Mg_{14}Zn_{25}$ ($P6_3/mmc$, a=939.06(2)pm, c=2528.71(9)pm, V=1931.15(11)·10^6pm³, Z=2, Sr_3Mg_{13}-type [3]) and $Ca_6Mg_8Zn_{15}$ (Fm-3m, a=1330.46(7)Å, V=2355.1(4)·10^6pm³, Z=4, Th_6Mn_{23}-type) are closely related to the Th_6Mn_{23}- and the $EuMg_{5+x}$-type.

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