

# Fe-Pr (Iron-Praseodymium)

H. Okamoto

The Fe-Pr phase diagram in [Massalski2] was redrawn from [82Kub] and revised by [93Oka]. The  $\text{Fe}_2\text{Pr}$  intermetallic phase in the [82Kub] diagram was suggested to be metastable. Results of various heat treatments of this compound supported this view [94Bur] (see [95Oka]).

The phase diagram shown in Fig. 1 was calculated by [95Bar]. The calculated boundaries accord well with the DTA data of [69Ray], [87Tia], and [95Bar], and are in very good agreement with those proposed by [93Oka]. Accordingly, the absence of  $\text{Fe}_2\text{Pr}$  in the equilibrium diagram and the rejection of DTA results reported by [87Zhu] in the [93Oka] assessment appear to be confirmed.

## Cited References

- 69Ray:** A.E. Ray, Tech. Rep. AFML-TR-69-239, Wright-Patterson AFB, OH, 13 p (1969).  
**82Kub:** O. Kubaschewski, *Iron-Binary Phase Diagrams*, Springer-Verlag, Berlin, 100-101 (1982).  
**87Tia:** J. Tian, H. Huang, J. Liang, *Sci. Sin. A: Mathematical, Physical, Astronomical, and Technical Science*, 30A(6), 607-619 (1987).  
**87Zhu:** Y.Z. Zhuang, H.Y. Zhou, and J.X. Zhen, *Acta Metall. Sin.*, 23(1), B42-B43 (1987).  
**93Oka:** H. Okamoto, *Phase Diagrams of Binary Iron Alloys*, ASM International, Materials Park, OH, 327-329 (1993).  
**94Bur:** G.S. Burkanov, A.S. Ilyushin, N.B. Kol'chugina, E.A. Rykova, and O.D. Chistyakov, *Izv. Ross. Akad. Nauk, Met.*, (5), 163-169 (1994) in Russian; *Russ. Metall.*, (5), 115-120 (1994).  
**95Bar:** S. Bär and H.J. Schaller, *Z. Metallkd.*, 86(6), 388-394 (1995) in German.  
**95Oka:** H. Okamoto, *J. Phase Equilibria*, 16(6), 534 (1995).

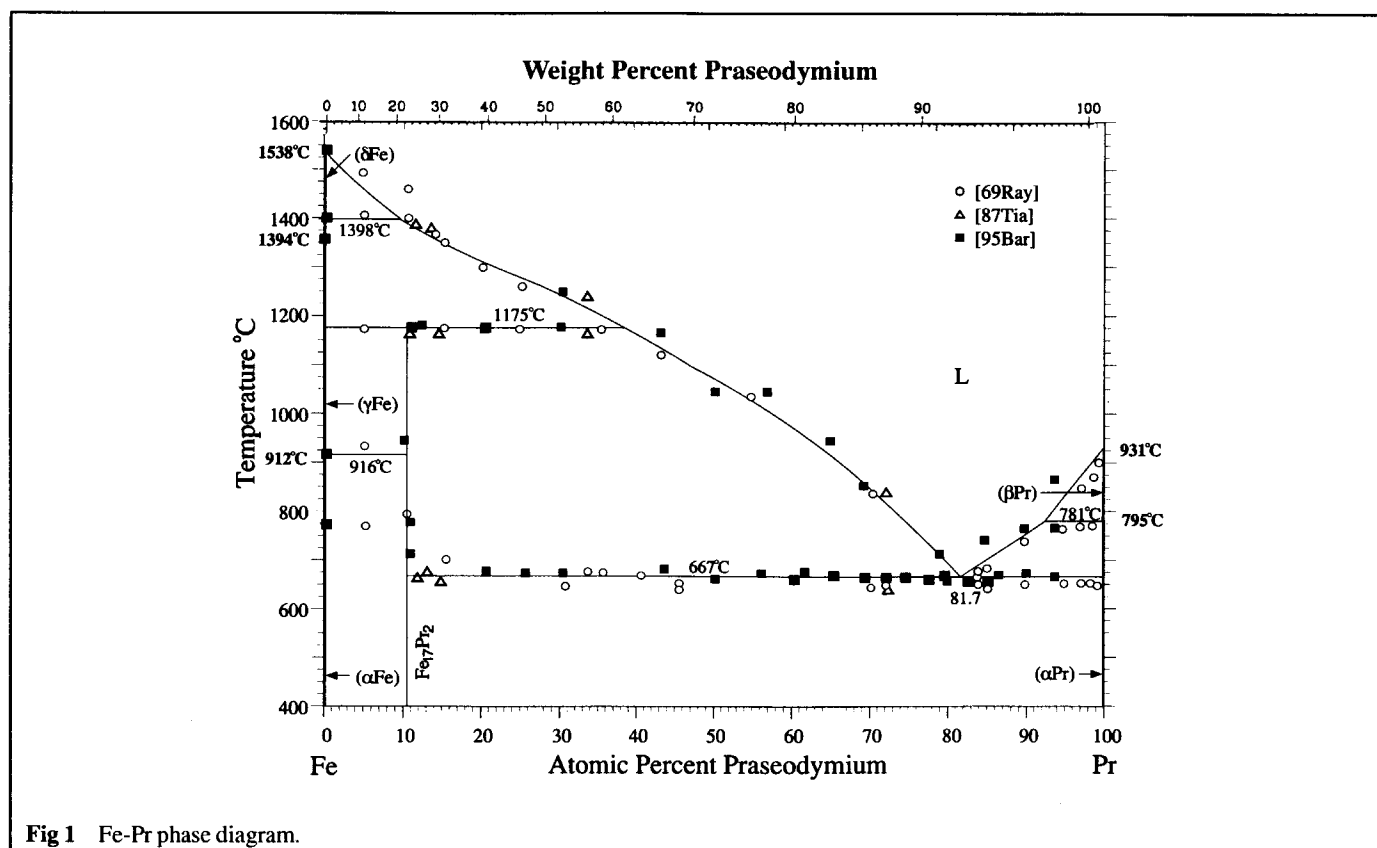


Fig 1 Fe-Pr phase diagram.