



Figure 1: The velocity parameter $\beta = v/c$ as a function of momentum for pions, kaons, and protons. The dashed lines correspond to the experimental setup described in Section 15.9 of the book.

The β values were generated with the following ROOT C++ macro:

```
void plot(Double_t m) {
    for(int ip=0;ip<100;ip++) {
        Double_t pgev = ip/100.0*5;
        Double_t e=sqrt(pgev*pgev+m*m);
        Double_t beta = pgev/e;
        printf("(%g,%g)", pgev,beta);
    }
    printf("\n");
};

void betavsp()
{
    printf("——pion——\n");
    Double_t m=0.13957; // rest mass in GeV
    plot(m);

    printf("——proton——\n");
    m=0.93827;
    plot(m);

    printf("——kaon——\n");
    m=0.493677;
    plot(m);
};
```