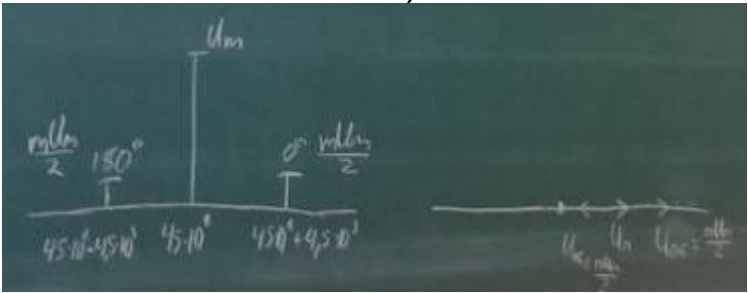


Глава 4 Задача 8

<p>Дано:</p> $\omega_0 = 45 \cdot 10^6 \text{ [Гц]}$ $\Delta\omega = 0,3 \cdot 10^3 \text{ [Гц]}$ $\Omega = 4,5 \cdot 10^3 \text{ [Гц]}$	<p>Решение:</p> $u(t) = U_m \cos(\omega_0 t) + \frac{mU_m}{2} \cos(\omega_0 + \Omega)t - \frac{mU_m}{2} \cos(\omega_0 - \Omega)t$ $m = \frac{\Delta\omega}{\Omega} = \frac{0,3}{4,5} = \frac{1}{15}$
<p>Найти:</p> <p>Изобразить спектральную и векторную диаграммы сигнала</p>	 <p>The image shows two hand-drawn diagrams on a chalkboard. The left diagram is a spectral diagram with a horizontal axis representing frequency. It features a central vertical line labeled U_m at frequency $45 \cdot 10^6$. Two sidebands are shown at frequencies $45 \cdot 10^6 + 4,5 \cdot 10^3$ and $45 \cdot 10^6 - 4,5 \cdot 10^3$, each with a height of $\frac{mU_m}{2}$. The angle between the sideband vectors is marked as 180°. The right diagram is a vector diagram with a horizontal axis. It shows three vectors originating from the same point: a central vector U_m pointing upwards, and two sideband vectors $U_m \cos \frac{\Omega t}{2}$ pointing downwards at angles $\pm \frac{\Omega t}{2}$ from the horizontal axis.</p>