Rules for integrands of the form $(c + d\,x)^m\,(a + b\,\text{Tanh}[e + f\,x])^n$

N: $\int u^m\,(a + b\,\text{Tanh}[v])^n\,dx$ when $u == c + d\,x \wedge v == e + f\,x$

- **Derivation: Algebraic normalization**
- **Rule: If $u == c + d\,x \wedge v == e + f\,x$, then**

$$\int u^m\,(a + b\,\text{Tanh}[v])^n\,dx \longrightarrow \int (c + d\,x)^m\,(a + b\,\text{Tanh}[e + f\,x])^n\,dx$$

- **Program code:**

```
Int[u_^m_.*(a_.+b_.*Tanh[v_])^n_.,x_Symbol] :=
  Int[ExpandToSum[u,x]^m*(a+b*Tanh[ExpandToSum[v,x]])^n,x] /;
FreeQ[{a,b,m,n},x] && LinearQ[{u,v},x] && Not[LinearMatchQ[{u,v},x]]
```

```
Int[u_^m_.*(a_.+b_.*Coth[v_])^n_.,x_Symbol] :=
  Int[ExpandToSum[u,x]^m*(a+b*Coth[ExpandToSum[v,x]])^n,x] /;
FreeQ[{a,b,m,n},x] && LinearQ[{u,v},x] && Not[LinearMatchQ[{u,v},x]]
```