

Werk

Label: Figure

Jahr: 1984

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and

if $a \wedge b \not\prec b$ then $(a,b)M$.

We remark that this lemma will be needed at several places in the sequel.

In Fig. 1 we give now an example of an algebraic lattice having a pure element which is not strongly pure.

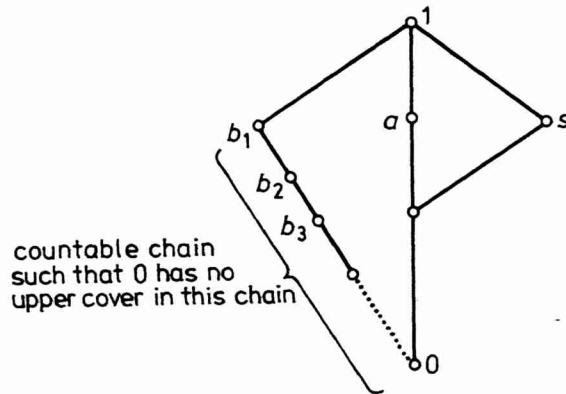


Fig. 1

This lattice is complete and satisfies the ascending chain condition. Hence every of its elements is compact (cf. [1, p.14]). It is easily checked that the element a is pure. But the element a is not strongly pure. To see this, take the compact element s . We have

$$a \vee s = a \vee b_i \quad \text{and} \quad a \wedge b_i = 0 \quad (i=1,2,3,\dots).$$

Moreover, we have $a \not\prec a \vee b_i$. Now by the preceding Lemma $(a, b_i)M$ would imply the relation $a \wedge b_i = 0 \not\prec b_i$ which, however, does not hold for any i ($i=1,2,3,\dots$).